View of Esplanade in front of Charles River Basin site.

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SITE CHOSEN FOR THE INSTITUTE

Fifty acres of land on the Charles River Basin will be purchased if conditions are complied with—Location is a dominating one with great possibilities for development—Area is nearly as great as that of Boston Common

Announcement was made by the Institute Corporation, October 11, that a site for the new Technology had been chosen on the Cambridge side of the Charles River Basin opposite the Back Bay section of Boston, between Harvard and West Boston bridges; the purchase of this land being contingent upon the closing of certain streets on the property by the city of Cambridge and the delivery of a good title by the owners.

The tract in question comprises nearly fifty acres of land with a frontage of nearly one third of a mile on the Charles River Basin esplanade and about a quarter of a mile on Massachusetts Avenue. It extends back from the river to the tracks of the Grand Junction Railroad operated by the Boston & Albany. The property is crossed by several proposed and accepted streets as shown on the map, page 483, although these streets have not been actually constructed. The Corporation proposes as a condition of purchase, that the city of Cambridge close all these streets with the exception of Vassar Street which runs near the railroad tracks and parallel with them and which will be extended to Main Street as a teaming thoroughfare.

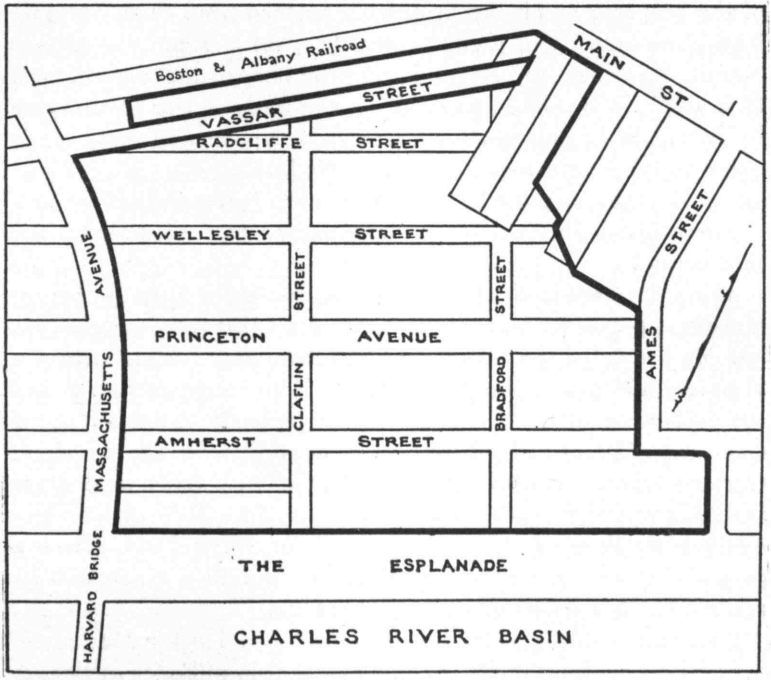
The announcement of the selection of this site was received with profound satisfaction by the Faculty and the alumni as well as by the people of Boston. Although there has been much diversity of opinion as to which one of the contemplated sites should be selected, the strategic character of the land chosen, its wonderful possibilities of development, its generous area and

its accessibility, appeal strongly to every interested person. The chief act now remaining to complete the transaction, is an enactment by the city of Cambridge closing certain streets on the property, and in view of the numerous and cordial invitations which the Institute has received from representative bodies in Cambridge, to locate there, it seems likely that the conditions of acceptance demanded by the Institute will be complied with.

The harmonious development of an imposing building group on the chosen site calls for treatment on a broad and generous scale as befits the most prominent location in Metropolitan Boston. In connection with the esplanade and the beautiful sheet of water lying before it, the imagination of the artist revels in the splendid architectural opportunities presented. But even of greater importance in the building scheme is availability for purposes of education and research with proper regard to growth and departmental balance, desiderata which call for judgment and engineering talent of unusual character. Happily the Institute has within itself all the elements necessary to cope with this important problem, but it will be some months before sufficient specific data has been collected to actually proceed with the details of the building plans.

The most striking feature of this final act which has determined the policy of the Institute for many years to come, is the exhibition of courage on the part of the Corporation in securing the new site at an expenditure of approximately three quarters of a million dollars and in making plans for erecting buildings which will cost millions, without halt or hesitation. The purpose and faith which marked the beginnings of the Institute of Technology appear again in the action of the Corporation authorizing this important step forward, a step which is made possible by duPont's generous gift, the increased appropriation from the State of Massachusetts and the splendid coöperation of the Faculty and alumni.

The selection of the new site was made by a committee consisting of the President, Messrs. George Wigglesworth, Frank H. Hart, '89, Edwin S. Webster, '88, and Everett Morss, '85, which was appointed early in June after the various sites had been fully discussed by the Corporation. Although about one hundred sites were offered to the Institute, the five sites considered by the special committee were as follows: near the Stadium in Cambridge; Jamaica Plain near Jamaica Pond; the Allston Golf



MAP OF CAMBRIDGE SITE

The heavy black lines on the plan show the area in Cambridge which it is proposed to buy as a new site for Technology. The lines enclose 1,999,706 square feet of land, or nearly 50 acres.

Club near Cottage Farm bridge; a location in the Fenway; the Charles River Basin site. The committee has been very active during the summer and thoroughly canvassed the merits of these five parcels, and when the final selection was made the committee was unanimous in its decision. The Stadium site was eliminated first. The Jamaica Plain property was not large enough for the purposes of the Institute, and a site in the Fenway of suitable size would have been far and away beyond our means. Between the Allston Golf Club and the Charles River Basin property the weight of opinion favored the latter.

The site selected is more convenient for the students generally, than any other. It is within a very few minutes of the center of Boston by the new Cambridge subway, which runs near one side

of the property and it can be quickly reached from Copley Square by surface cars. It is a comparatively quiet location, the surface cars on Massachusetts Avenue being the only disturbing element. It is ample in size and comes within the ideas of the Institute as to price. It is comparatively free from smoke and dirt. It is likely to be a permanent home for the Institute for fifty or one hundred years to come as the land is extensive enough for any expansion that may reasonably be expected to take place during that period.

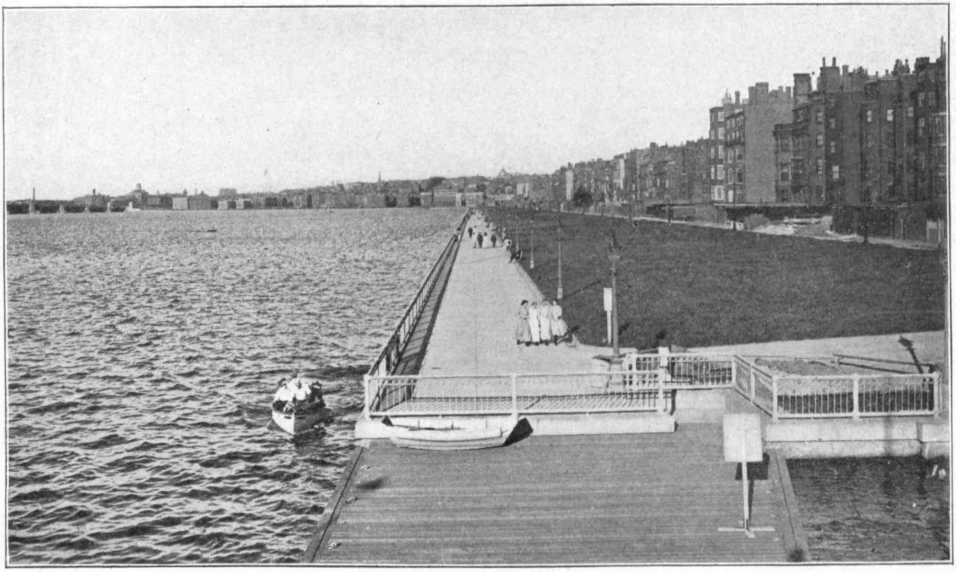
Along the Charles River esplanade southwest of Harvard bridge is every opportunity for building fraternity houses and dormitories, although some of the fraternity houses are now located within a very few minutes of the property. It is to be remembered that the esplanade on the river side of the property embraces about eight acres of park, which is in effect an addition to the property. One important consideration in connection with this new location is that it will give generous space for an athletic field with a commodious stadium as well as a gymnasium. It will also afford a proper setting for the Walker Memorial building which will be made a notable center of student social life.

"To be rated of greatest importance," said Doctor Maclaurin, in speaking of the new site, "is the fact that it will offer to Boston a splendid opportunity for improving the Charles River Basin. That is a feature which has wonderful possibilities, opportunities that hardly seem to be realized by the citizens as a whole. Scarcely a city in the world has such splendid opportunities."

General attention has recently been called to the possibilities of the Charles River Basin as a recreation center, by various civic organizations coöperating with the Boston-1915 movement. Although it did not prove feasible to construct an island in the Charles River on which to locate the Institute of Technology, it is not unlikely that a narrow island of somewhat irregular form may be constructed near the Harvard bridge to add a picturesque element to the view and to afford the public a recreation ground. It is proposed to break the austerity of the straight lines of the basin by piers, boat houses, etc., and to encourage all kinds of aquatic sports. The prospect of a strikingly beautiful group of buildings on the new Institute site, will give a strong impetus to this movement and it has even been suggested that money may be forthcoming from some source to create an impressive water

VIEW OF BEACON STREET HOUSES FROM HARVARD BRIDGE.

Courtesy of Boston–1915



BOSTON SIDE OF THE CHARLES RIVER ESPLANADE

Courtesy of Boston–1915

approach to the Institute, with broad steps leading to a grand entrance on the esplanade opposite the main approach to the buildings.

The natural advantages of the Charles River Basin are similar to those of the Alster Basin, at Hamburg, Germany, which has been made beautiful and attractive for pleasure seekers, along the lines now proposed for Boston.

As has already been indicated, the sum of money required for building will be perhaps larger than has heretofore been considered. Furthermore, it is imperative that we secure a large amount of money within a reasonable time for other reasons: The gift of General T. Coleman duPont, '84, of half a million dollars is contingent of our securing a million and a half more during the next five years from other sources, while the appropriation of one hundred thousand dollars a year for ten years by the State of Massachusetts was conditional on our having raised a million dollars at the end of a period of five years.

It is a matter of great satisfaction that the gift of an Institute alumnus should have made this forward step of the Institute possible, and that the great body of the alumni desires to do its part is a matter of common knowledge. Plans are now being made for a fund which is to be raised for general building purposes, and when the title to the property has actually passed into the hands of the Institute an active campaign will be started. It is believed that the response will be hearty and generous, and whether many very large sums are forthcoming or not it is sure that there will be an enormous number of moderate or small contributions such as characterized the Technology Fund which carried the Institute through a very critical period in its history. It will, however, be impossible for the alumni to give, of their own substance, a sufficient sum to build the new buildings. It is understood that some generous friends of the Institute are likely to assist in a large way, and it is hoped and believed that the sum necessary will be contributed long before it is actually needed.

One of the most important considerations in connection with the site is the fact that for some years, at least part of the Institute work will have to be conducted in the Boylston Street buildings and it is therefore quite necessary that the new Institute should be as convenient to Copley Square as possible, a condition which will be filled by the Cambridge site. This property is

curiously restricted so that we are bound to use these buildings for some time to come and it is out of the question to sacrifice this parcel as it will ultimately be extremely valuable.

The report of the site committee as presented to the Corporation reads as follows:

"The special committee on the site has worked continuously from the time of its appointment and has found the problem presented to it far from a simple one. The selection of a site has not been merely a question of deciding upon the best location and coming to an agreement about price, but it has involved in the case of two of the sites most seriously considered the removal of restrictions, the closing of projected or legally accepted streets and other difficulties not apparent until actual negotiations were undertaken.

"Your committee has been absolutely unanimous in its opinions and decisions, and while it cannot today state that it has actually secured a site for the Institute, it has made such headway that it feels that satisfactory progress can be reported.

"Representatives of the owners of the large tract on the Cambridge river bank east of Massachusetts Avenue, known to your Corporation as the Cambridge site, have pledged themselves as far as possible to transfer the land to the Institute, free from all existing restrictions, on terms more favorable to the Institute than have so far been obtained with reference to other sites of similar value. Your committee has informed these representatives that, subject to certain restrictions being removed and a number of roads closed by proper action on the part of the city government of Cambridge, a good title being given within a reasonable time, the Institute will purchase and pay the price agreed upon. The tract referred to consists of about fifty acres and has a frontage of 1750 feet to the esplanade on the river bank and 1150 feet to Massachusetts Avenue. In view of the possibility of it proving impracticable to the owners of this tract to fulfil the stipulations of this agreement, your committee has not ended its consideration of other sites, and continues to hold important options on other lands."

In response to a request from the REVIEW several well known alumni have expressed their views about the new site as follows: Frank L. Locke, '86, ex-president of the Alumni Association:— It seems to me that the location has many very attractive features: notably, the splendid setting which the Charles River Basin fur-

nishes for the display of the buildings; its accessibility to the center of the city; its proximity to vacant land available for buildings to house the students; and its immediate contact with the water park, offering endless opportunity for sport, exercise and recreation.

To me, the strongest objection to the site has been the fact that it is in Cambridge and that this in all probability will ultimately mean the complete removal of the Institute from Boston.

Few realize, I think, the difficult task which has been imposed upon the Corporation and its special committee in selecting a suitable site. I am sure we may all feel that the problem has been solved in true Technology fashion, and that, considering all points, the most desirable location has been chosen. Now, and more important than the selection of the site, is the hearty coöperation of every Tech man in the upbuilding of a new Technology which shall be a splendid monument to its founders and to the traditions of the institution.

Walter B. Snow, '82, ex-president of the Alumni Association:—No matter what opinion one may have held regarding the site question, he must now be convinced that the committee has chosen the best. It lends itself as does no other suggested location to the most symmetrical and economical arrangement of the buildings and the most effective impression upon the largest number of people. Although Boston will lose the buildings themselves she will be rewarded with the beauty of the prospect across the basin. Few institutions in the country have had before them such an opportunity for serving the æsthetic taste of the public and at the same time fulfilling their own requirements. The site carries with it a unique asset in the matter of the 200 feet wide shaded esplanade extending along its front and containing an open area of about eight acres, across which the basin may be viewed.

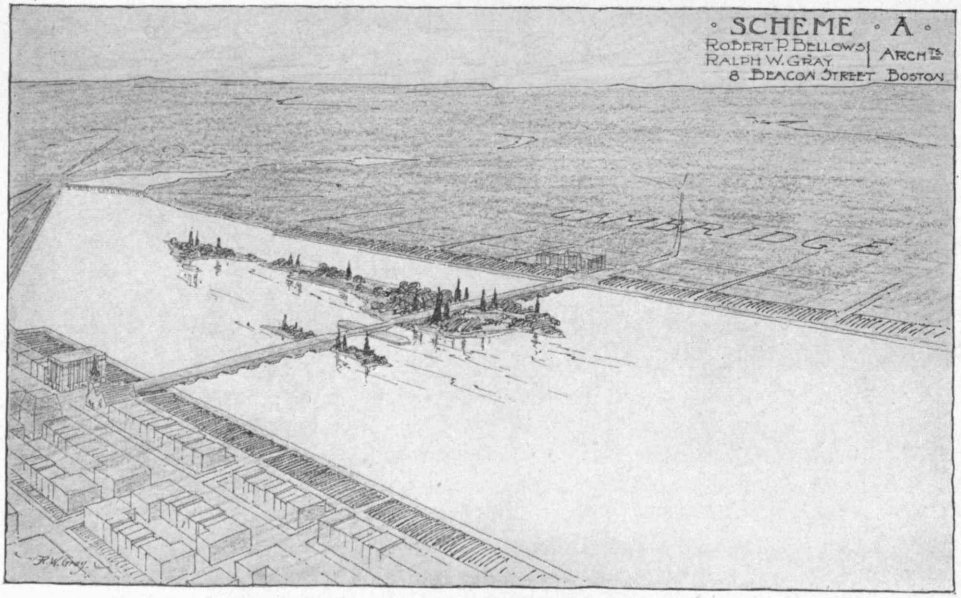
The distance from the former site is really negligible when electric car service is considered, in fact as a general proposition the new site is practically as accessible as the old. Rapid developments in Greater Boston's transportation system will soon remove what little objection there may be to the new location on this account.

Thankful as the present generation must be to duPont for his generous financial support, future generations will rise up and call him blessed when they realize that above all else it was his insist-

ence upon ample area that insured the purchase of a tract much larger than was originally considered. So far as we can now foresee this will provide room for normal growth for years to come, and meanwhile make possible the concentration of all activities, educational, athletic and social, within its limits. Only as the work proceeds will the alumni fully appreciate the wisdom and the untiring efforts of the special committee,—President Maclaurin, former Treasurer Wigglesworth, Morss, '85, Webster, '88, and Hart, '89, to whom all credit is due.

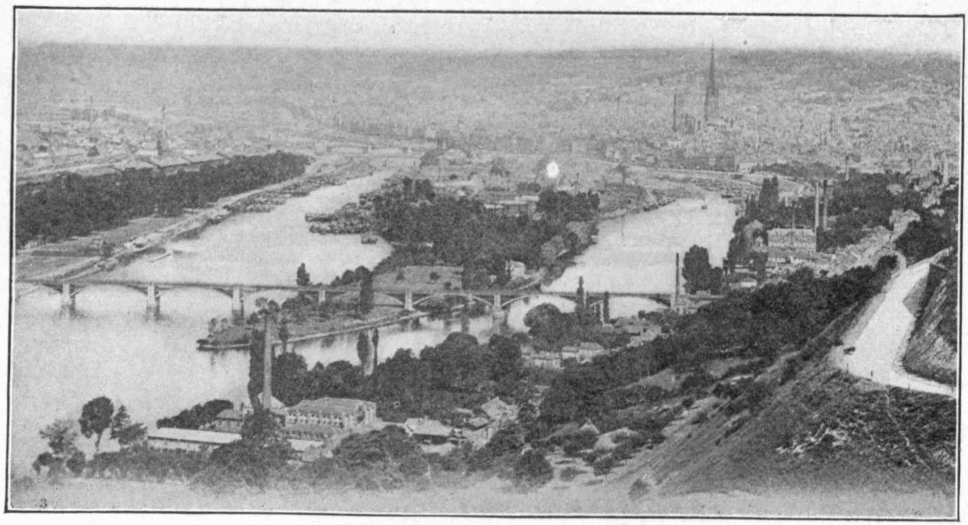
A. F. Bemis, '93, ex-president of the Alumni Association:—The essentials for a new site for the Institute are size, convenience, cost, prominence, durability and a good relation to other educational institutions. The first four of these essential features are clearly found in the new site selected on the north bank of the Charles River Basin. It is hardly necessary to say a word in justification of the site in connection with those points. The area is practically the maximum suggested by any one as necessary for the new Technology, and there is clearly no other site obtainable in Metropolitan Boston of equal size, convenience and prominence at a cost within the present or prospective means of the Institute.

Probably the most difficult problem to solve in selecting the new site was that of durability or permanence of its effectiveness. With the very rapid changes that are occurring in the character of localities in modern times, and with even more rapid and drastic changes that should be expected in the future, no new site could be considered at all, that did not offer definite promise of continued effectiveness for the Institute's purposes for the next fifty or one hundred years. A study of other large cities, especially in Europe, will show how the banks of great and beautiful water parks, such as the Alster Basin in Hamburg, the Thames in London, and similar features in Paris, Stockholm and other cities, have been selected for the location of great institutions and beautiful buildings, not only because of their prominence and attractiveness of outlook, but because the permanence of their character has been established and guaranteed by the public good. For this reason it is safe to predict that no location in Metropolitan Boston will remain more permanently effective for a public or semi-public institution than the borders of our new Charles River Basin.



PROPOSED ISLAND FOR RECREATION AND OTHER PURPOSES

Courtesy of Boston–1915



AN ISLAND IN THE SEINE AT ROUEN

Courtesy of Boston–1915

In the present age and in the years to come it is reasonable to expect, if not to demand, increased co-operation between educational institutions. The one institution in this vicinity with which the Institute can best co-operate, and from which it should expect the largest measure of co-operation, is Harvard University. Probably no site has been considered for the new Technology offering greater opportunities for real and effective co-operation between these two institutions than the one selected, which is only about ten minutes' distance, by electric cars, from Harvard Square.

Whereas other sites that were considered may have had greater advantages in one direction or another, it is clear there was none which so nearly fulfilled all the essential requirements as the one selected. If it has one feature more lasting in importance than any other it is its great prominence of location in the very center of Metropolitan Boston. This advantage is not so much because it will command the attention and interest of all people in this vicinity and strangers who visit us, but because it will put upon us the obligation which we desire, to be even greater in our service to Metropolitan Boston, the Commonwealth of Massachusetts, and mankind generally, than the mere prominence of our physical plant in the "Hub of the Universe."

Arthur A. Noyes, '86, president of the Alumni Association:—We alumni certainly have good reason to rejoice over the recently announced plans of the Corporation of the Institute. The decision (contingent on favorable action by the Cambridge authorities as to the abandonment of certain proposed streets) to remove the Institute to the Charles River bank, will not only settle the long-discussed site problem, thus making it practicable to prosecute energetically the plans for our future development, but it will settle that problem in a manner more satisfactory than could have been hoped for. The extraordinary accessibility of the chosen site to the heart of Boston and to nearly all its suburbs; the striking conspicuousness of the location with its 1750-feet frontage on the Charles River Basin, destined to become the chief pleasure resort of the people of Boston; its open situation with abundance of air and light and comparative freedom from noise, smoke, and mechanical disturbances; its connection at the rear with a freight railroad by which coal, machinery, and merchandise can be brought to its power station and laboratories; the large area of land secured, making bountiful provision not only for any possible future growth

of the educational buildings of the Institute, but also for the immediate social and athletic needs of our student life; the exceptional facilities for aquatic sports; the opportunity afforded by the unoccupied land near the site on the river bank above Massachusetts Avenue for attractively located student houses;—all these are features which, taken together, make the location an almost ideal one.

These obvious advantages will, it may be predicted, so appeal to our alumni, to the public-spirited citizens of this neighborhood, and to the manufacturers of the country whose industries are dependent on the success of such education as the Institute affords, that the task of securing the large fund needed for the proper development of the Institute will be greatly facilitated.

Tech Men Receive Doctor's Degrees

Science for August 18 contains a list of persons receiving the doctor's degree at principal American Universities. Among them are four Institute graduates:

C. S. McGinnis, '06, at the University of Pennsylvania, on "The Transmission of Sound through Porous and Non-Porous Materials."

G. B. Obear, '03, at Brown University, on "The Hygrometric Properties of Gelatinous Media."

E. L. Chaffee, '07, at Harvard, on "A New Method of Impact Excitation of Undamped Electric Oscillations and their Analysis by Means of Braun Tube Oscillations."

F. C. Lincoln, '00, at Columbia University, on "Certain Natural Associations of Gold."

A Correction

We have received a note from Mr. W. Felton Brown making a correction in a recent article on the Huntington Hall Frieze. In this article credit is given Mr. K. E. Carpenter, '09, for the panel having for its subject, "Ship Building." The author of this panel is Mr. H. DaLand Chandler, '09, who should have credit for one of the best things the frieze has to show.

HEARING BY CAMBRIDGE CITY COUNCIL

The Institute will not locate there unless certain streets on property are closed—There will be another hearing before Council acts

At the hearing given by the Cambridge City Council, November 14, relative to the closing of certain streets on the proposed Technology site, President Maclaurin of the Institute, indicated very clearly that although Technology was desirous of acquiring the tract and doing its part to beautify the city, it had no desire to force itself upon the community and would prefer to choose from among the other sites still available rather than to go where it was not welcome.

The hearing was very largely attended and there were many speakers who occupied the time until 11 o'clock when the meeting was adjourned for a week. There was some objection to the closing of Amherst Street, from manufacturers who have located in the immediate vicinity. Those who spoke against the proposed measure were Joseph Eustis, J. R. Wilson, of the Page & Shaw Candy Co., Frederick A. Fiske, Sidney J. Monk, and Gilbert A. A. Peavey. The main objection raised by these men was that the closing of the streets would cut off a direct road between Harvard Bridge and their factories.

Among those who spoke in favor of closing the streets were Gen. William A. Bancroft, John H. Corcoran, representing the Cambridge Board of Trade, which was one of the bodies who extended a cordial invitation to the Institute to come to Cambridge, Edmund A. Whitman, president of the Cambridge Club, James J. Scully, Henry J. Cunningham, W. S. Youngman and Allen Apsey. They spoke of the many advantages the city would have if the Institute should move across the river.

Hon. Fred W. Dallinger, president of the Cambridge Board of Trade wrote a letter favoring the petition. Ex-Representative Meyers objected to granting the petition on the ground that no

more land should be made exempt from taxation for educational purposes.

On the part of the Institute, President Maclaurin said that Technology was willing to do whatever was possible to meet the objections of individual citizens, but it could not agree to take the land if the streets with the exception of Vassar Street are not closed.

He felt confident the City Council would look at the question from a broad view. He said he believed Technology is the greatest institution of its kind in the world and referred to the advantages that would accrue to Cambridge if it located there.

The Institute never would have considered Cambridge as its site, he said, had not assurances of welcome been given through petitions and official invitations, and declared that if the petition asking for the closing of Amherst Street were refused Technology would withdraw and select a site in one of the other communities which had offered inducements.

In a newpaper interview on the day of the hearing President Maclaurin said:

"It should be clearly understood that the Institute of Technology can buy all the land it may want in Cambridge without approaching the City Council. It may buy such land and use it for any purpose that falls within the scope of its charter, but if it is to use this land as the site for its future buildings, then the closing of Amherst Street and the transfer of all rights therein to the Institute is absolutely essential. To have such a street running through its property would interfere most seriously with its plans for building and such a street close to its main buildings would set up mechanical and electrical disturbances that would make these buildings unsuited for the scientific purposes for which they are designed. It must be clearly understood, therefore, that the Institute can not consider this property as a site for its buildings whatever other use it may put it to, if Amherst Street is to remain open. Perhaps I should add that if the Institute acquires a satisfactory title to all the property that has been referred to, *including Amherst Street*, it will proceed at once to build there, in a manner worthy of the greatest technical institution in the world.

"It appears then, that the question to be decided is whether it is better for the city of Cambridge to have Amherst Street open, or to have this site used as the location of the future buildings of

the Institute. The value of Amherst Street must be great indeed, if it can be considered seriously in comparison with the enormous advantages to be derived from the Institute's presence in Cambridge.

"As there are others who can speak more authoritatively from a Cambridge point of view, I need do little more than indicate briefly the character of some of the advantages to which I have referred. Speaking to an intelligent audience, I should put first as an advantage of inestimable value, the mere presence of such an institution in your midst. You have an opportunity of securing, not an unknown and untried school, but admittedly the greatest thing of its kind in existence, and surely it must mean much for the citizens of Cambridge to be better placed in the matter of technical education than any other city in the world. The school is one that gives boys training as an entrance to many practical professions and opens its doors to rich and poor alike. It may be interesting for you to know that of the Massachusetts students at present at the Institute, one-third of the whole are the sons of wage-earners. Such a school is for some poor boys the only avenue to real success in life, and it gives them an opportunity not only of bettering themselves but of contributing materially to the future wealth of the city and of the state. Apart from these advantages, unquestionably great, but hard to estimate in dollars and cents, the presence of the Institute here would enable Cambridge to benefit directly by the large sums of money spent by the Institute and its students. It is estimated that at least a million and a half dollars a year are spent in this way, and a large part of this would inevitably be added to the wealth of the city. This takes no account of the very large sums of money to be spent in the future on the buildings of the Institute. We propose within the next few years to spend at least two million dollars in buildings, and if this takes place in Cambridge, that city can not fail to profit largely by the expenditure. Apart, however, from such considerations, there are two very special reasons why Cambridge should welcome the Institute to this particular location. Unless the Institute comes here, that portion of the city will inevitably be doomed to the use of factories and garages—I say "doomed" not because factories and garages are a bad thing, but because they are comparatively cheap structures, adding little to the tax-list. The Institute's presence will save the situation, and inevitably improve the surrounding prop-

erty all along the river front, thereby bringing a rich harvest of taxes into the city treasury. Then, you must recognize that whole future of the Charles River Basin is wavering in the balance. Cambridge has paid a large share of the expense of improving that basin; if it has been improved merely for the sake of factories and garages, millions of money might as well been have thrown into the Basin. A unique opportunity of improving the city has been lost, and the approaches to Cambridge from the Boston side left permanently in a highly unsatisfactory condition.

"With such facts in mind, I do not think that you can take long to decide the relative advantages of the two courses that are open to you—to keep Amherst Street open, or to receive the Institute into your midst. Indeed, the advantages of possessing Technology are so enormous that you could only decide against it if you were hostile to the Institute and it goes without saying that the Institute has no intention of coming to Cambridge unless it is to be welcomed there, and I am glad to have much evidence that such a welcome is actually being extended to us. It is a simple fact that we should have not considered going to Cambridge at all had it not been for the petitions from individuals and societies in Cambridge urging us to go to this particular site. The Cambridge Club and the Economy Club in February and March last, invited us most cordially to locate on the land now being discussed, and pledged the Institute their hearty support. The Executive Committee of the Tax Payers Association expressed their belief 'that it would be for the best interests of the city to have the Institute of Technology occupying this land and are heartily in favor of this action. It is our belief that this will establish the north bank of the Charles River west of Massachusetts Avenue, as a residential section, thus bringing to Cambridge large amounts of additional taxable property.' The Citizens Trade Association extended a cordial and hearty invitation and pledged their earnest support. A large number of individuals representing all shades of political and social interests asked for our favorable consideration of Cambridge as a site for the Institute. The Mayor of the city assured us that he regarded such an institution as a blessing and not a burden upon the community, and that he would welcome the Institute should it decide to cross the river. The city of Cambridge passed an order in both branches of the city council to the following effect: 'In consideration of the manifest

change in the character of the development that is gradually and surely creeping along the river front, which is destined to change this section from the very valuable residential possibilities that it was originally designed, and which means a very serious loss to the city in taxable valuation, be it:

" 'ORDERED:—That the city Council of the City of Cambridge wishes to record its approval of the movement to induce the Massachusetts Institute of Technology to locate on the land, now vacant, extending along the northeasterly side of Massachusetts Avenue between the Boston and Albany Railroad tracks and the river front.' "

Resignation of Professor Schwamb

Announcement was made at the opening of the term that Professor Peter Schwamb, '78, had resigned as professor of machine design and director of the mechanical laboratories at the Institute, who has been on the instructing staff of the Institute for 28 years. The mechanical laboratories have now been incorporated as a sub-department of the mechanical engineering department, and Professor Park has been appointed supervising director. A sketch of Professor Schwamb will be given in the January number of the TECHNOLOGY REVIEW.

English for Foreign Students

Foreigners who come to the Institute usually have an equivalent to the second year English course already in their own languages, but are weak in their everyday English. For these reasons the Faculty has decided that it would be an injustice to exact of these men the same requirements as of native students, and accordingly a special course, or rather individual courses, are given them according to their needs, being about the equivalent of what the student gets of French or German. There are fourteen men in this section, of which Instructor Sidney Gunn has charge, several of them are from China and others from Portuguese or Spanish South America.

MAYOR OF CAMBRIDGE FAVORS

Points out the advantages that would come to that City if the Institute should locate there—A solution of the river-front problem

Mayor Barry of Cambridge, in a statement bringing out many advantages which would accrue to Cambridge from the establishment of Technology there, declared that the question of discontinuing Amherst street should not prevent the city from securing the institution.

"The question of the discontinuance of Amherst street as a public way in the city of Cambridge," he said, "appears at present to be the only thing standing in the way of the locating of this great institution in our city. This is rightly objected to by certain well established manufacturing concerns already located in this vicinity, but these manufacturers are reasonable in their objections, and I feel certain that the city council in its wisdom will devise and lay out some other plan of traffic which will be acceptable.

"The coming of the Massachusetts Institute of Technology to the city of Cambridge will be of great advantage to our city, renowned as it is all through the civilized world as being the foremost seat of learning in this country.

"The location of this, one of the greatest scientific schools in the world, on the borders of the beautiful Charles River Basin and so convenient to the great city of Boston, will, I feel very certain, be the means of the development of the entire section west of Massachusetts avenue as a high-class residential district, thereby greatly adding to our assessed valuation.

"I am very certain, too, that the location of the Institute in our midst will be of untold advantage and benefit to the manufacturers of Cambridge, as well as to all departments of the city requiring expert scientific information, as I understand that the Institute is always ready and willing to coöperate in matters of scientific and public interest.

"The advantages to the young men of Cambridge seeking tech-

nical training cannot be estimated fully until the institution itself is located here."

In an editorial November 15, the *Boston Transcript* said:—

"In his statement at Cambridge last evening, regarding the matter of the new site for the Massachusetts Institute of Technology Dr. Maclaurin very cleverly put out of the question the objection to the non-assessment of taxes, because any educational or religious institution, under the present laws, can purchase land in Cambridge and the Cambridge authorities can have nothing to say as to whether such land should be taxed or not, so that all the arguments along the line of injury from non-assessable property are done away with in a single sentence. The point reduces itself plainly to the question: Is Amherst street more valuable to Cambridge than the Institute of Technology? And when it is considered that Dr. Maclaurin's estimate of a million and a half expenditure a year is an exceedingly conservative one and hardly allows for the money dispensed by the instructing staff of two hundred, it will be seen what a very large direct financial benefit an institution of the kind will be to the city in which it locates. The waterfront of Cambridge ought to be a desirable place for residences, but any improvement to that end thus far has failed to manifest itself. The establishment of an architectural group of buildings such as Technology is capable of placing there can hardly fail to work great improvement in the character of the surrounding property and thus add to the actual value of the city."

Goes to Observe Jupiter

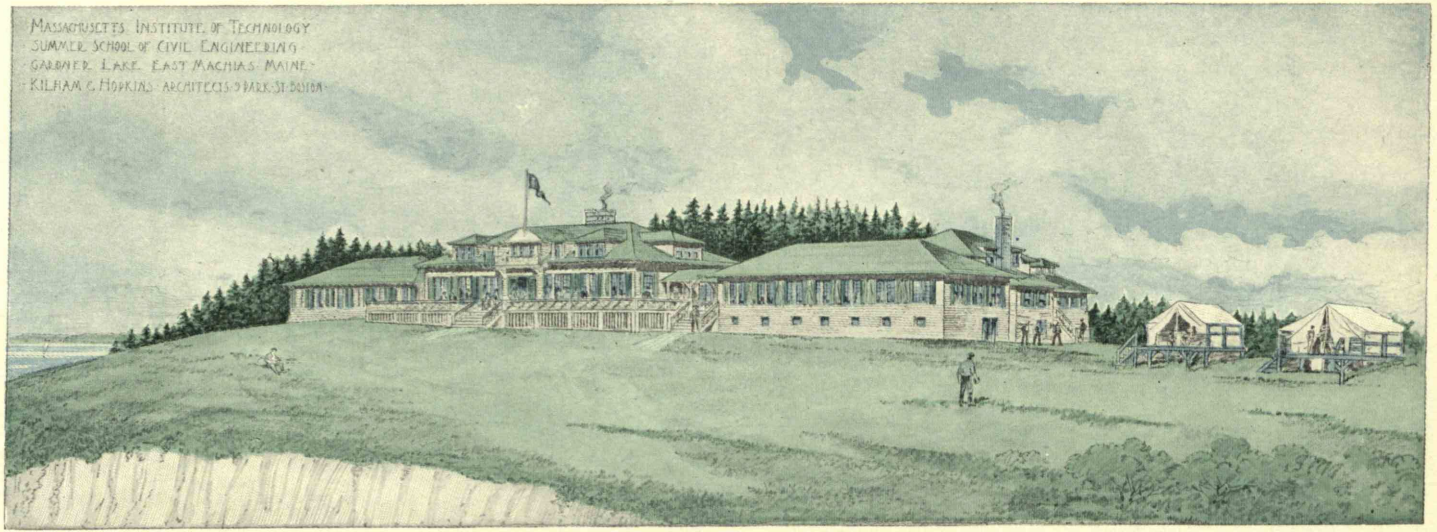
Professor William H. Pickering, '79, of the Harvard Observatory sailed this month for Jamaica, where he expects to remain for a year in connection with astronomical work for Harvard College. Professor Pickering took with him an eleven-inch telescope and photographic apparatus. The particular object of his trip is to observe the satellites of Jupiter. In the tropics the atmosphere is clearer and the air steadier for observations, and for that reason Jamaica was selected. Contemporaneously with the work of Professor Pickering, Professor Douglass of Tucson University in Arizona is making a series of observations.

CHANGE IN CIVIL ENGINEERING DEPARTMENT

Announcement has recently been made by President Maclaurin of the appointment of Professor Charles M. Spofford, '93, to be the head of the department of civil and sanitary engineering at the Institute. At the time Professor Swain left the department to accept a similar position at Harvard University, the administration of the department was divided between Professor Allen who represented it in its relation to the Corporation, Professor Spofford who was the representative on the Faculty, and Professor Porter who was in charge of sanitary engineering. The change recently announced was made at the request of Professor Allen, senior in the department, who desired to be relieved of his portion of the executive duties. There will be no change in the courses resulting from this appointment.

Professor Spofford is a Massachusetts man, born in Georgetown, who was graduated from the Institute in 1893 with the degree S. B., taking a post-graduate course the next year. For some time thereafter he was with the Phenix Bridge Company as draughtsman, returning to Technology as assistant in the department of civil engineering in 1896, with six years as instructor and two as assistant professor. He was then called to the chair of civil engineering at the Brooklyn Polytechnic Institute, where he remained till Professor Swain went to Harvard, whereupon he returned to Technology as Hayward professor of civil engineering.

Professor C. Frank Allen, who has asked to be relieved of responsibility, is also a Tech graduate, having his S. B. from the Institute in 1872. He was engaged in legal business for a time, but has been a member of the instructing staff since 1887, having been assistant professor for two years, associate professor for the succeeding seven years and full professor since 1896, his specialty being railroad engineering. He has had important practical experience with the Santa Fé Railroad. He was president of the Boston Society of Civil Engineers in 1899, of the Massachusetts Highway Association and of the New England Railway Club in 1906.



Building now being erected for the Summer School of Civil Engineering at East Machias, Maine. The alumni, aided by the advice of the members of the Faculty, initiated the movement for the summer school, made the selection and purchase of the site with the approval of the Corporation, have financed the undertaking, and are supervising the building and equipping of the camp; a splendid example of the practical help the Institute is receiving from an efficiently organized body of alumni. The committee on summer school camp, consists of Leonard Metcalf, '92, chairman, F. H. Fay, '93, A. F. Bemis, '93.

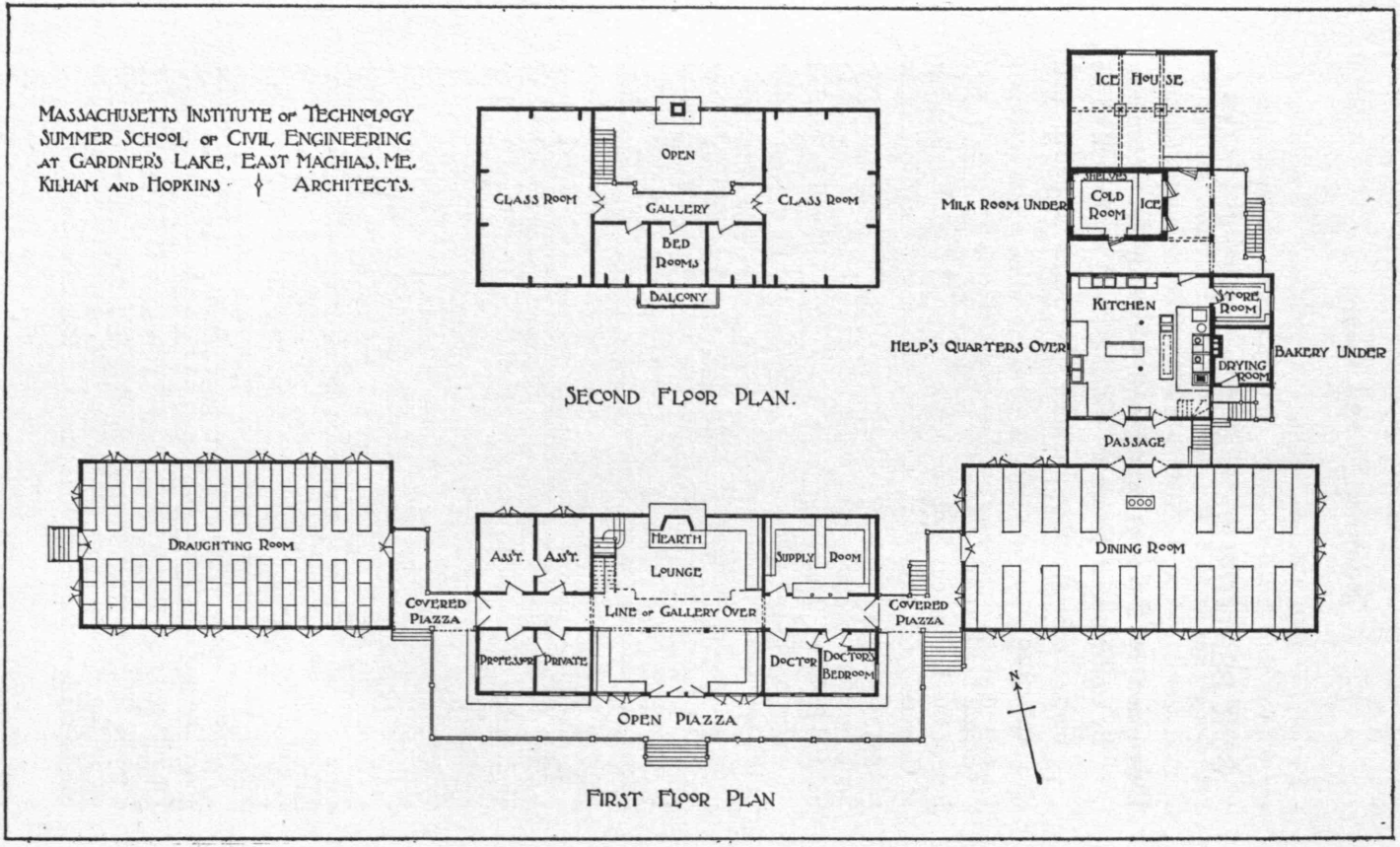
OUR BEAUTIFUL SUMMER SCHOOL CAMP

Description of Buildings which will be ready for occupancy by students next Summer—Facilities and equipment to be unexcelled—Another instance of Alumni initiative and enterprise

Ground has been broken for the construction of the main buildings of the Technology Summer School Camp of Civil Engineering at Gardner Lake, near East Machias, Maine, and early in August of next year, the Institute will offer to the students in civil engineering a practical course in field engineering in a camp unexcelled in natural facilities and in equipment, where the work will be carried on under conditions which will be ideal for the promotion of the health and good fellowship of the students. The camp completely equipped, and embodying the latest ideas in camp construction, is provided through the generosity of two alumni; one, who prefers to remain unknown, having purchased the land and generously offered to equip the camp, while the other, Charles W. Eaton, '85, has contributed $10,000, toward the construction of the buildings.

A description of the beautiful site selected and of the steps leading to the establishment of a permanent summer school of engineering appeared in the July number of the REVIEW. For those who have not seen that article it may be explained that the site consists of a tract of land, over 700 acres in extent, having a shore frontage of three miles on one of Maine's most beautiful lakes. The land, somewhat rolling, and containing both wooded and open country, is well adapted to practical instruction in surveying, and as the country outside of the camp is sparsely settled, it will afford opportunity for carrying railroad and other surveys beyond the limits of the Technology site.

Gardner Lake, about eight miles long, with a very irregular shore line probably twenty-five miles in extent is of value not only for surveying purposes, but also for the opportunities it offers for boating, bathing and fishing. Stream measurements will be carried on in the stream which drains the lake, and tidal observations can be made as the ocean is but three or four miles away.



PLAN OF THE SUMMER] SCHOOL] BUILDINGS

During the past summer, Kilham & Hopkins, the architects selected for the summer school, have prepared the final plans for the main buildings, and in the early fall a contract for their construction was let to A. R. Gilson of Machias. Work was begun at once, and it is expected that before it will be suspended for the winter, the concrete foundations will be in place, and the ice house finished to store this winter's ice crop in readiness for next summer's camp.

The main buildings are to be three in number, set upon a bluff or plateau, known as Crosby Point, at an elevation about seventy-five feet above the lake and one hundred and forty feet above sea level. The group will have a frontage of two hundred and twenty-two feet, and an extreme depth at the east wing of one hundred and fifteen feet. The buildings face to the south and are in a commanding position where they may be seen for miles, and from which an extended view of the surrounding country is to be had.

The buildings are to be of wood, the outer walls being made of partially rounded timbers to suggest log cabin construction. The roofs are to be covered with asbestos shingles (invented by Professor C. L. Norton, '93) as protection against fire, although the land round about will be cleared of trees to such an extent that the fire risk will be a very small one. The buildings are arranged in irregular line with the roofs at different elevations giving a pleasing diversity in appearance.

The central administration building, the dominant feature of the group is to be seventy-two feet by thirty-one feet in size, two stories in height, and set a few feet above the ground. On entering this building one will cross the broad open piazza, ninety feet in length along the front, and will come immediately into the lounge or living room, about thirty feet square, around the walls of which are seats and book shelves. On the further wall, opposite the entrance, will be seen a massive stone chimney with a fire-place large enough to take four-foot logs. The chimney will be fitted with a heavy oak mantelpiece supported by stone brackets, and its broad front will afford room for the Tech seal and emblems. At the front of the building this lounge or living room is one story in height, but at the rear the room rises past the second floor gallery up to the height of the roof. In leisure hours this lounge will be a cheery and comfortable meeting place for teachers and students alike.

To the left of the lounge are four small rooms, to be used as offices by the professor in charge of the camp and his assistants. At the right, on the front of the building, there are two rooms for the use of the camp physician, and to the rear of these is the supply room, which will be also a sort of country store and post office.

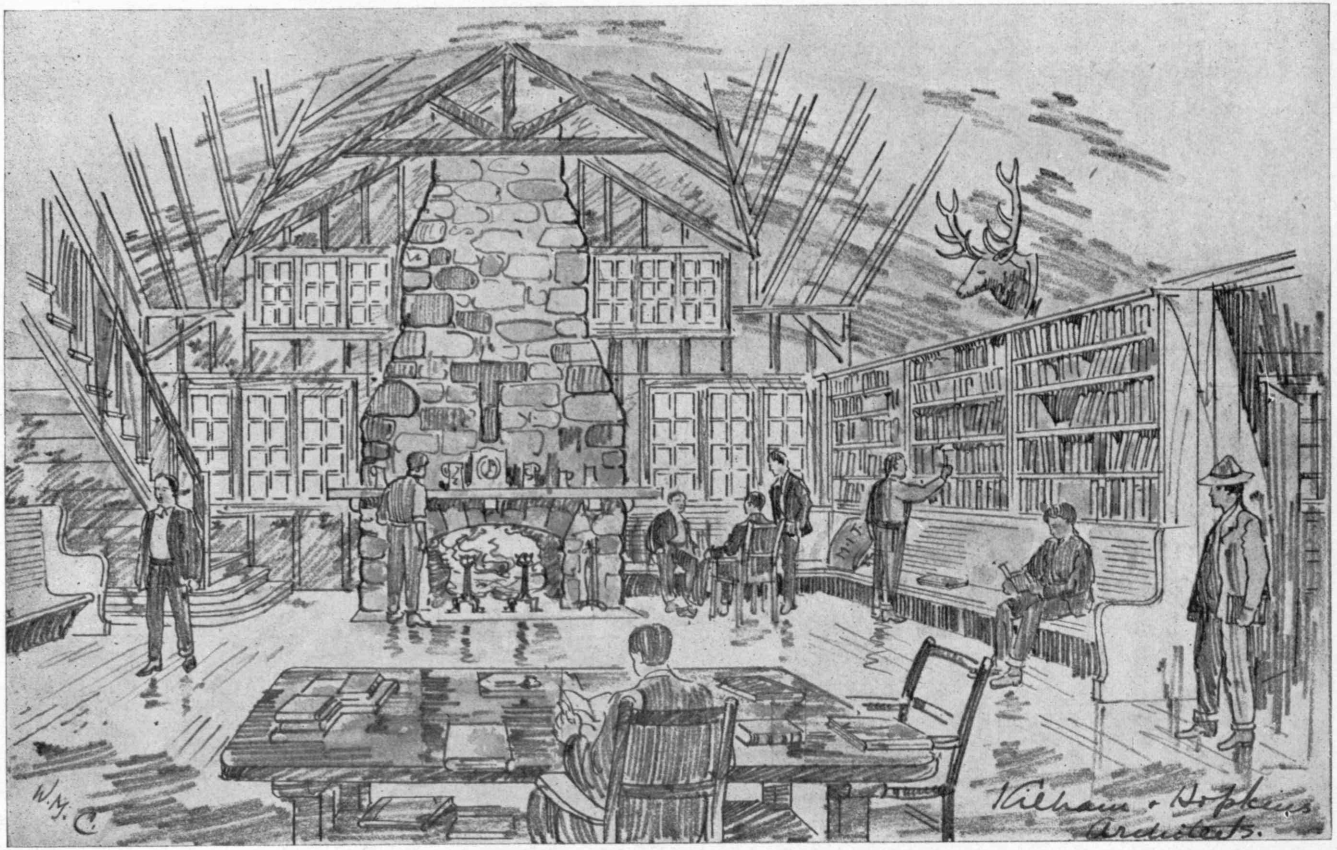
On ascending the stairway at one corner of the living room, we find on the second floor two classrooms, one at each end of the building, each twenty-one by thirty feet in size, and lighted by large dormer windows. In front are three small rooms which may be used as bedrooms, recitation rooms or offices. The rooms of the second floor are connected by a gallery overlooking the fire-place and the rear of the lounge.

The entire west wing, which is connected with the administration building by a covered passageway, is fifty-six feet by thirty feet in area and one story in height, and is to be used as a drafting room. It will have drawing tables to accommodate seventy-two men. It is high studded and well lighted by windows on all four sides and by large dormer windows, with northern exposure, in the roof.

The east wing, which is shaped something like a T square, with the head facing the lake, will contain a dining room, kitchen, ice house, servants' quarters, etc. The dining room, which is reached by a short covered passage from the administration building is sixty-four feet by thirty feet in size, one story in height, with tables seating 168 persons. Like the drafting room, it is open to the rafters, and is well lighted by windows on all sides, although there are no dormer windows in the roof. In fair weather with all the windows open the room will be so light and airy that the effect will be much like dining out of doors.

To the rear of the dining room, and separated from it by a passage eight feet in width, is the kitchen, fully equipped with ovens, broilers, cook's table, steam table, dish washer, vegetable and pot sinks, etc. Opening out of the kitchen is the store room, and in the basement below is to be found the bakery. To the rear of the kitchen and separated from it by another open passage are the cold room for the storage of meats, etc., and the ice house which will be large enough to hold an abundant supply of ice cut from the lake. In the basement beneath the cold room is a room for the storage of milk.

The servants are to be quartered over the kitchen, and on the



SOCIAL ROOM AT THE SUMMER SCHOOL

first floor alongside the kitchen chimney is the drying room where students who may be drenched while surveying in wet weather will have an opportunity of drying their wet clothing. In the basement of the east wing are located also the toilet rooms, and a large instrument room where the instruments may be kept in the summer and where much of the camp equipment may be stored during the winter.

In the main buildings will be provided sleeping quarters for the camp physician, the kitchen force, and possibly for two or three members of the teaching staff. The students and most of the instructors, however, will be quartered in tents, placed in a curve on the crest of the bluff to the east of the main buildings. Each tent will have a wooden floor and will probably be 10 by 12 feet in size, accommodating two men, although 14 by 17 foot tents, for four men, are under consideration.

On the shore of the lake, at a point considerably removed from the bathing beach, will be located a pumping station, where water of excellent quality, obtained from wells near the shore, will be pumped to a tank, which will supply the camp with running water, a luxury that will be appreciated by alumni who have recollections of lugging water at past summer school camps. The gasoline engines which operate the pumps will probably be used at night to generate electricity for lighting the whole camp.

A drainage system, embodying some of the latest ideas in sanitary science is being planned by Leonard Metcalf, '92, chairman of the alumni committee on the summer school; this will afford an opportunity for some experimental work by students in the sanitary engineering course. A boat house, wharf, and a number of gasoline launches and other boats, will complete the equipment of the camp.

The summer school camp is an example of the practical help which the Institute may expect from the efficiently organized body of alumni, when the great problem of moving the institution to a new site is taken up. In this instance the Technology Corporation has been asked simply to give its official sanction to the project; the alumni, aided by the advice of members of the Faculty, have initiated the movement for the summer school, have thoroughly investigated site possibilities and made the selection and purchase of the site, have financed the undertaking and are supervising the building and equipment of the camp.

In years to come Tech men will acknowledge with gratitude their debt to the two alumni, who have generously given the funds necessary to provide the Institute with a summer school camp, admirably fitted to meet the social and technical needs of the students in civil engineering, who for two months in the summer vacation, following their second year, will gain health and experience and will form friendships, which in many instances will last through life.

FREDERIC H. FAY, '93.

Major Cole Comes to Tech

Maj. Edwin T. Cole, U. S. A., has been appointed instructor in military science at the Institute this year. Major Cole comes to the Institute particularly well equipped for his new field. He was graduated from West Point in 1889 and for two years has been the head of the engineering department at the army college at Fort Leavenworth. He has given special study to topography and his efforts have resulted in giving more attention to road position and outpost sketching throughout the army. He has made many original contributions to the arts of topography and phototopography. Previously to entering West Point Major Cole was associated with the engineering work of the Philadelphia and Reading Coal & Iron Co.

Professor Chandler Retires

Professor Francis W. Chandler who has been head of the architectural department of the Institute for twenty-three years has tendered his resignation on account of increasing deafness. Professor and Mrs. Chandler will make an extended tour of Europe this winter. Probably no Institute professor is better loved than Professor Chandler and the news of his retirement will be read with much regret especially by the former students of the architectural department. It is understood that he desired to make this change two or three years ago but was persuaded from taking this step until this time. Professor Chandler will be the subject of a sketch in the January TECHNOLOGY REVIEW.

NOMINEES OF ALUMNI ASSOCIATION

Alumni Council announces Nomination of Officers for the Association and for Term Members of the Corporation—Ballots soon to go out

The nominating committee of the Alumni Association has made the following nominations for officers of the association: for president, James W. Rollins, '78; vice-president, Leonard Metcalf, '92; secretary-treasurer, Walter Humphreys, '97; executive committee for two years, George B. Glidden, '93, and Lawrence Allen, '07; members at large on the Council for two years, Charles F. Lawton, '77, John L. Shortall, '87, Spaulding Bartlett, '90, E. Laurence Hurd, '95, Ingersoll Bowditch, '00.

There are six names presented for term membership on the Corporation of which three will be selected by ballot. The nominees are Louis A. Ferguson, '88, Chicago; Eugene C. Hultman, '96, Boston; Arthur D. Little, '85, Boston; Russell B. Lowe, '02; Fitchburg; J. Waldo Smith, '87, New York City and Eben S. Stevens, '68, Boston. Sketches of the nominees given by the nominating committee are as follows:

Louis A. Ferguson, '88. Graduate in electrical engineering. Second vice-president of the Commonwealth Edison Company and president of the Minerallac Electric Company and the Walker Vehicle Company of Chicago.

On leaving the Institute joined the staff of the Chicago Edison Company as engineer of the underground department and was promoted assistant electrical engineer of the construction department in 1889 and electrical engineer of the company in 1890. Became general superintendent of the company in 1897 and of the Commonwealth Electric Company until his appointment as second vice-president of both companies in 1902.

Is at present second vice-president of the Commonwealth Edison Company (the consolidation of the Chicago Edison and Commonwealth Edison Companies), president of the Minerallac Electric Company, the Walker Vehicle Company, director of the North

Shore Electric Company, and of the Illinois Gas and Electric Company. Mr. Ferguson has done much notable work in central station practice. Appointed in 1895 on staff of lecturers at the University of Wisconsin.

President Northwestern Alumni Association of Massachusetts Institute of Technology, 1898–9, National Electric Light Association, 1902–3, Association of Edison Illuminating Companies, 1901–3, American Institute of Electrical Engineers, 1908–9. Member of Commercial Club, Union League Club, Chicago Athletic Club, Mid-Day Club, University Club, Onwentsia Club, Glen View Club, also Engineers' Club of New York.

Eugene C. Hultman, '96. Graduate in civil engineering. Engineer for the board of directors of the West End Street Railway Company, Boston, Mass.

From '96 to '97 scientific field assistant United States Geological Survey. From '97 to '98 assistant engineer West End Street Railway Company and Boston Elevated Railway Company. From '97 to '99 assistant chief engineer Barbour Stockwell Company, iron founders and machinists, Cambridgeport, Mass. Since 1899 has been engineer for the board of directors of the West End Street Railway Company, as well as from 1900 to 1904 occupying the position of engineer for the board of directors for the Fitchburg Railroad, besides serving on various arbitral boards and grade crossing matters; member also of the Massachusetts House of Representatives in 1906, '07, '08, and of the Massachusetts Senate in 1909 and '10. Member of executive committee of the Alumni Association, and member of the State Aid Committee, 1911.

Arthur D. Little, '85. Special student in chemistry. Chemist and chemical engineer.

Chemist and superintendent Sulphite Fiber Mill, Richmond Paper Co., 1884–85; engaged in starting sulphite plants in North Carolina and Wisconsin, 1885–6; state assayer, 1887–95; in private practice in Boston as chemist and engineer, 1887–1910; now president Chemical Products Co., director Fort Hill Chemical Co., Standard Alcohol Co., president and manager Arthur D. Little, Inc., chemists and engineers for many large public service and manufacturing corporations.

Author (with R. B. Griffin) "Chemistry of Paper Making."

Director American Chemical Society, past chairman Division

of Industrial Chemists and Chemical Engineers; member Executive Committee Eighth International Congress Applied Chemistry, president Section of Cellulose, Starch, Paper. Member American Gas Institute; Society of Chemical Industry; American Institute Chemical Engineers, etc. Fellow American Association for Advancement of Science.

Chairman Publication Committee of the TECHNOLOGY REVIEW for the first few years of its existence. Initiator of recent Congress of Technology.

Russell B. Lowe, '02. Graduate general science. Cotton manufacturer, Fitchburg, Mass.

President Parkhill Manufacturing Company, director Lancaster Mills, Clinton, Mass., director Fitchburg Safe Deposit & Trust Company, director National Association of Cotton Manufacturers, director, Nashua River Reservoir Company, president Fitchburg Society for the Prevention of Tuberculosis.

J. Waldo Smith, '87. Graduate in civil engineering. Chief engineer of the Board of Water Supply of the city of New York.

After graduation was employed with The Holyoke Water Power Company until 1890, when he went with the East Jersey Water Company and was occupied on the development of the water supply for Jersey City and Newark, and the operation of the water works of Paterson, Passaic, and Montclair.

In 1900 he became chief engineer of the East Jersey Water Company and under his direction the water purification plant at Little Falls was constructed.

In 1903 was appointed chief engineer of the Aqueduct Commissioners of New York City and under his direction the new Croton dam was completed, progress was continued on the Jerome Park Reservoir and the Cross River dam was begun.

In 1905 was appointed chief engineer of the Board of Water Supply of the city of New York for the development of an additional supply of water from the Catskill region. Has continued on this work up to the present time. This work involves an estimated expenditure of $176,000,000; has a total length line of about 120 miles and the construction of a number of large reservoirs.

Mr. Smith is a past director of the American Society of Civil Engineers, member of the American Society of Mechanical

Engineers, Century Association, New York Engineers' Club, Technology Club, New England Society of the city of New York, Hamilton Club of Paterson, Chamber of Commerce, State of New York, New England Water Works Association, American Water Works Association.

Eben S. Stevens, '68. Special student from 1865–67. Retired.

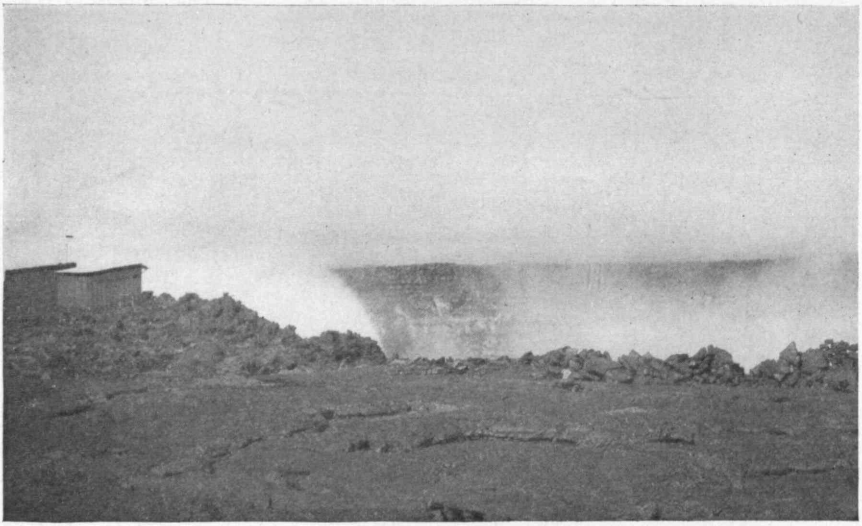
Was president and treasurer of the Intervale Mills Corporation, Massachusetts senator from 1892–3; served as expert in Kettle Brook & Blackstone River cases for the city of Worcester. Also in the same capacity for the metropolitan commission. For the past two years has been president of the Connecticut Valley Alumni Association. Has served on numerous public boards and corporations. Mr. Stevens gave valuable assistance to the committee on Legislative work in the campaign for state aid.

Mr. Stevens served as term member on the Corporation from January, 1906, to January, 1909, and is eligible to the Corporation as alumni term member, as his original term of service expired more than one year ago.

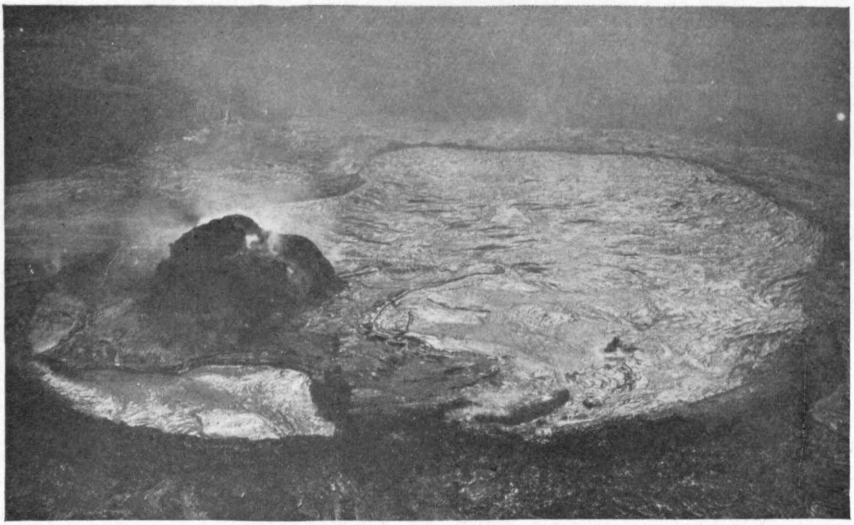
Tech Men identified with Vocational Magazine

Among the members of the editoral staff and advisory board of *Vocational Engineering*, a new bi-monthly magazine published in the interests of vocational education, are Arthur B. Dean, '95, chief of the division of vocational education, State Vocation Department, Albany, N. Y., William E. Roberts, '92, supervisor of manual training, Cleveland, Ohio, James P. Munroe, '82, president of the National Society for the Promotion of Industrial Education, Charles R. Richards, '85, director of Cooper Union, New York City, and Arthur L. Williston, principal of the Wentworth Institute, Boston.

The area of the site selected for the Institute is a little less than the area of Boston Common. Boston Common has an area of forty-eight acres and the Cambridge tract has an area of forty-six acres. It will thus be seen that the Institute will have all the land necessary for expansion for a long period to come.



THE TECHNOLOGY STATION AT KILAUEA



THE LAVA LAKE AND ISLAND

As seen from the Station July 17, 1911

THE TECHNOLOGY STATION IN HAWAII

Observations being made there by Mr. Frank A. Perret, representing the Institute, in conjunction with the Carnegie Institution and the United States Weather Bureau

In 1906, after the San Francisco earthquake and the eruption of Vesuvius, the department of geology began systematically to seek money for the establishment of a geophysical station as a branch of the Institute's activities. Mr. Charles A. Stone, a trustee of the estate of Edward and Caroline Whitney, secured from that estate money wherewith to purchase in Germany a seismograph. In 1907 Professor Jaggar conducted an expedition from Technology to the Aleutian Islands, this being supported by generous subscribers in Boston and elsewhere. The journal of this expedition was published in the REVIEW in January, 1908. In December of that year came the frightful earthquake at Messina, and Mr. Frank A. Perret, then working on Vesuvius, was immediately sent to the scene of the disaster, aided by funds from friends of the Institute, and from the Volcanic Research Society of Springfield. This society of business men had been organized by his friends to support Mr. Perret's work in Italy. From that time to the present, the Institute and the Springfield society have both assisted Mr. Perret, and his work has been extended to Etna, the Canary Islands and Hawaii. The Brooklyn Institute also claims him as one of her sons.

In 1909 Professors Daly and Jaggar went to Hawaii and studied the active volcanoes there. The people of Honolulu, through its Chamber of Commerce and the Bishop Museum, undertook to raise an annual fund for five years, conditional upon Technology's acceptance of the task of building and manning a volcanological observatory. In July, 1909, the Whitney estate provided an endowment fund of $25,000 for research in geophysics, and especially for work which might ultimately lead to the protection of life and property in connection with volcanoes and earthquakes. Plans for establishing a Hawaiian station have, since 1909, been

slowly developing. Professor Daly has published two papers dealing with his work there. In 1910 the geophysical laboratory of the Carnegie Institution of Washington prepared special thermometric apparatus at the request of our department of geology. Other instruments, mostly seismographs, were secured in Japan, and the United States Weather Bureau furnished a set of meteorological instruments.

In 1911 the income of the Whitney fund, along with some other gifts from individuals, first became available for use in the field, and the Institute established a temporary station at Kilauea with Mr. Perret in charge. Professor Jaggar, aided by Institute engineers, designed and had built a cableway for spanning the crater and lowering instruments. From July 2, 1911, to the present time, Mr. Perret has been directing the work of this station and during July and August he was accompanied by Dr. E. S. Shepherd of the Carnegie Institution. Dr. A. L. Day, director of the Carnegie Geophysical Laboratory, cordially coöperated with us in this work. The Volcanic Research Society of Springfield loaned the services of Mr. Perret to the Institute, and continued his stipend. He expects to return to Italy, probably by way of the Orient, during the coming winter. Since August 18, regular reports have been made by the "Technology Station," and these have been published in Honolulu for the benefit of the people of the Islands. They will be compiled in a scientific memoir by Mr. Perret.

The expedition left for Honolulu June 29 and proceeded to the Island of Maui where the great crater of Haleakala was visited, and two days later the party proceeded to Hilo and to the volcano. Arrangements were made for accommodations at the Volcano House, and a light frame building with galvanized iron roof was started on the edge of the inner pit of Kilauea. The lake of lava, with a diameter of one hundred and fifty meters and some eighty-five meters below the edge of the pit, was found to be slowly rising. Immersed in the boiling melt was a floating island, consisting of two parts joined by a low isthmus under which there was a cavity into which the surface lava of the lake was pouring in cascades from either side. From day to day, the island and the shores of the lake changed and provision was made to photograph these changes with a view to securing, for a limited period at least, a complete record of the streaming mechanism of such molten rock.

In one portion of the lava pool there is a great fountain which boils up every few seconds, and this has been known for years as "Old Faithful." There were flames of burning gas which appeared amid spatter cones and in high vents on the wall of the crater, sometimes accompanied with little spurts of lava from elevations considerably above the main level of the pool. At intervals the rising lake overflowed its banks forming flows.

"Many observations," wrote Mr. Perret, "both visual and photographic were initiated for a systematic study of the various phenomena of the lava lake, the flames, the circulation of the lava, the formation of grottoes, the mechanism of the lava fountains, etc. In the latter, four principal phases were distinguished, and have been photographed by day and by night, the special telephoto camera being found invaluable for this work. On July 8th sites were selected for the cable anchorages and for the observation station, and work was begun on stretching the cables on the 11th. On first trial the smaller cable broke and fell into the lake, and the end, on being pulled up, was found to be converted into iron sulphide. This boded ill for the electric thermometer, which was successfully immersed in the lake July 20, but which failed to connect electrically with the recording instrument on the shore. During the four minutes of immersion the three protecting tubes of iron, nickel and quartz were completely dissolved, although the melting point of each is far above the temperature of the lava. The result is due to the high chemical activity of the lava from the presence of sulphur, etc., and this was not wholly foreseen in the designing of these instruments.

"The second thermometer also failed under test, and finally a third instrument was prepared by Doctor Shepherd, and was successfully immersed July 31. This consisted of a thermoelectric couple with a large water-jacketed cold end, and this also was lost, but not before a satisfactory reading had been obtained, which gave 1010° centigrade (1850° F.) as the temperature of the lava in the lake from one to three feet below the surface. By means of the cable an iron pot was lowered for an instant into the 'Old Faithful' fountain, and a quantity of fresh lava obtained for analysis."

Mr. Perret further reported that about July 28 a large gas vent under the east black ledge became very troublesome, preventing a sight of the lake from the operating end of the cable, and neces-

sitating a line of signal men around the crater. After August 6 the vapors from this vent developed so much free acid that the zinc coating of the galvanized iron roof of the station was consumed. On the 22d of July the lake level began to sink, sublimations began forming around the banks and the lowest level was reached August 7; then the lake began to rise, culminating at the time of full moon on August 9, after rising nineteen feet. It fell again after the 10th of August. There were heavy avalanches from the banks and from the interior of the crater during periods of falling of the lake. The lake became, therefore, much enlarged. The floating island steadily sank, and its progress was photographed daily.

On July 25 at 10.32 a. m., a shock of the third to fourth magnitude (Mercalli's scale) was felt at the station, and two distinct shocks were felt at the Volcano House August 7.

The station was completed on July 23 and immediately occupied. A correspondent in Hawaii wrote to Professor Jaggar as follows: "I was at the volcano last week and had several interviews with Mr. Perret. He is certainly an enthusiastic as well as a keenly intelligent worker. It is impossible to get him away from the little building he has erected at the brink of Kilauea. He is there night and day, and from what I can gather, is so interested in gathering information concerning Pelé's doings that he gets scarcely any sleep."

"Pelé" is, curiously enough, the name of the Hawaiian fire goddess, and the word is in no way connected with the name of the famous Martinique volcano.

The station is on the eastern brink of the crater. Its equipment consists of a Zeiss telemeter, a portable transit, Zeiss telephoto camera, other cameras, thermograph, barograph, thermometers, anemometer, pyrometers, field glass, seismoscope and microphones. The seismoscope is one designed by Perret and is set up for visual observation at intervals, showing the ground to be continually in movement. The rise of every fountain of lava is clearly shown by the indicator. Mr. Perret has adopted an arbitrary decimal scale by which the average seismicity is recorded, the normal being five. This is indicated by a slow continuous movement with sharp quivers every fifteen to twenty seconds. Stronger movements would be rated as six, a quieter condition by four, etc. The seismoscope also shows

strong tiltings of the ground in a north-south direction, sometimes southward and sometimes northward.

Mr. Perret's devotion to the work has stirred the enthusiasm of the people of Honolulu. Dr. William T. Brigham, director of the Bishop Museum, visited the Technology station, and at once secured a gift of money for Mr. Perret's work. President Gilmore, of the College of Hawaii, is keenly interested, and a movement is now on foot for forming a permanent association with headquarters in Honolulu, to build and maintain a permanent observatory which may, perhaps, be partly financed with Federal funds under the grants apportioned to the College of Hawaii. A national park has been proposed for the Kilauea district, and if such a reservation is provided for by Congress, it may be possible in the near future to establish a permanent scientific station properly equipped, and in charge of trained observers. If the Institute of Technology should succeed in bringing this about, it will have the honor of establishing the first volcano observatory on American soil.

On October 5, 1911, a step in the direction of establishing a permanent observatory on Hawaii was taken at a luncheon in the University Club of Honolulu. Hon. L. A. Thurston presented the subject, and addresses were made by Governor Frear; Pres. J. W. Gilmore of the College of Hawaii; Mr. J. A. Kennedy, president of the Inter-island Steamship Company; Mr. Clarence Cooke, president of the Bank of Hawaii; Mr. A. F. Judd, trustee of the Bishop Museum; Mr. T. Clive Davies, M. I. T., 1894, and a number of other prominent citizens of Honolulu. All expressed great interest in organizing permanent study of the volcanoes, and a committee was appointed to prepare plans for forming an association which should deal with the matter. The committee selected consists of Messrs. Thurston, Judd, Gilmore, Cooke and Kennedy. This committee raised $1500 at once for temporary purposes and will take under advisement the question as to whether the association formed shall be independent and local, or associated with such a scientific institution as Technology. On a motion by Governor Frear, governor of the Territory of Hawaii and formerly chief justice, it was voted, "that it is the sense of this assemblage that there should be an observatory established at Kilauea."

The useful results which will come from such work as this, may best be indicated by comparing a volcano station to an astronomi-

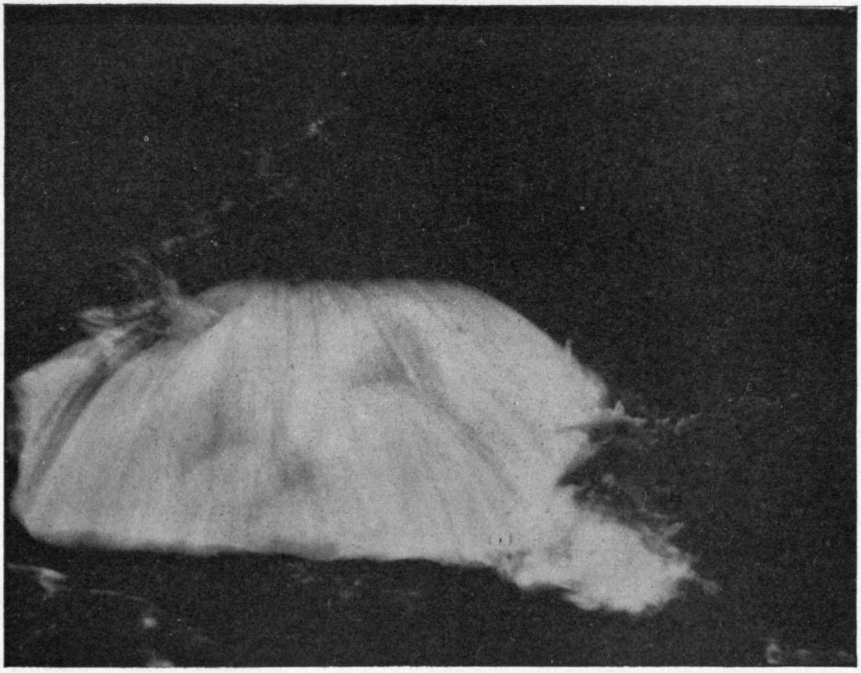
cal observatory, or to one of the stations of the Weather Bureau, the Hydrographic Office, or the department of terrestrial magnetism of the Carnegie Institution. These establishments record and measure movements of the heavenly bodies, movements of the atmosphere, movements of the hydrosphere, changes in the earth's magnetism. There remains in the service of humanity the lithosphere, or rocky shell of the earth, and its vast enclosed mass of heavy matter. We live upon it, are subject to its fluctuations, and greatly need more knowledge of its moods, both for avoiding disaster and for utilizing its forces.

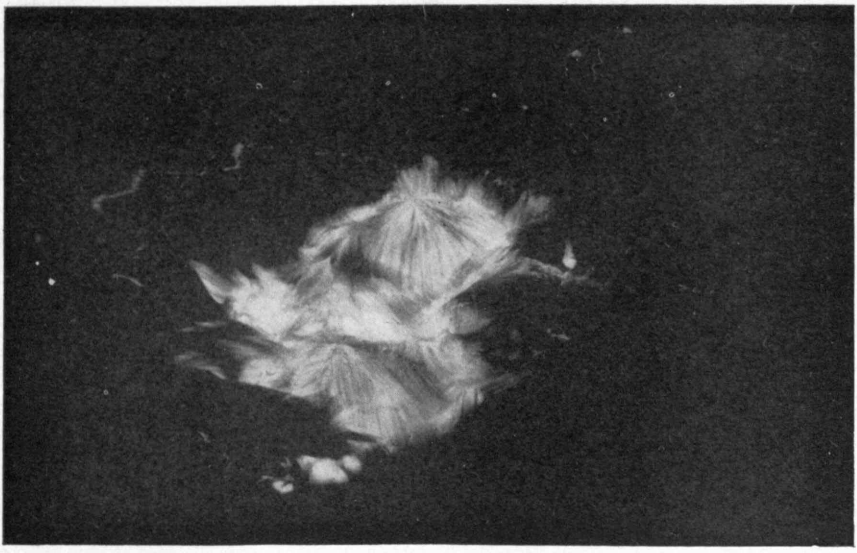
At Kilauea on a mid-Pacific island there is a great vertical shaft open, leading into the earth's interior, and containing a mobile fluid which rises and falls and emits gases. It rarely explodes disastrously, and so is a suitable place for scientific work. About its borders, earthquakes, small and great, occur, related to it as a center. Here, if anywhere on earth, may be learned much concerning such problems as the nature of the under earth, the origin of ore deposits, the cause of earthquakes, the origin of the atmosphere, the effect of sun and moon on the earth's crust and the primitive manifestations of the earth's magnetism and gravity. A French man of science has suggested the digging of a deep shaft far into the earth for scientific purposes at an enormous expense; it seems better worth while to spend the money at such shafts as Kilauea which are already dug for us to unknown depths, and exhibit the most fundamental movements of the earth we live upon.

The following quotation from Doctor Shepherd's report to the director of the Geophysical Laboratory in Washington shows something of the adventurous nature of these experiments:

"Perret had been pitched out of an auto onto his head two days before, and could not help further than to climb down on the ledge and watch the thermometer. We were short of help that day, there being only Thurston, Emery, Ferris and myself available. But Thurston agreed that, with the sulphuric acid and steam rapidly destroying the anchorage of the main cable, it was then or never, so he impressed Mrs. Thurston, Miss Thurston, and Laurin Thurston into service.

"The smoke was very bad, so that we could see neither the lake nor the reel on the east side, and signals had to be waved around the rim. Finally the thermometer was over the lake. I took





THE LAVA FOUNTAIN "OLD FAITHFUL"

Telephoto Pictures by F. A. Perret, made at midnight, July 23, 1911. Distance 180 metres, focus objective 80 cm., Zeiss Apparatus

up my position at the galvanometer and refused to look away from it, for previous attempts had demonstrated that we might get a reading for only a second. Mr. Thurston handled the reel for lowering the thermometer, Mrs. Thurston held the cable tight on the drum. This placed Mr. and Mrs. Thurston directly under the main cable. In view of the probably weakened anchorage and the sudden and violent jerks to which this cable was subject while the thermometer was in the lava, I felt much relieved when the experiment was ended and the last thermometer gone for good. Laurin shifted coils and Miss Thurston established herself with a flag on top of the station. This last was a decidedly uncomfortable place, as the sulphur dioxide was pouring up around her and the rain and mist drenching her. Perret went down on the north ledge and we depended on signals waved by him to Miss Thurston and repeated by her to us.

"The element struck the lava at 1.35 p. m., the galvanometer rose steadily to 910° C., and remained stationary a minute. Perret signaled to pull up. He afterward reported that an immersion of two to three feet had been perfect and that steam was issuing from the water pot which served to fix the temperature of the 'cold junction.'

"We then lowered the element once more, but only to have a fountain burst out just under it. The hot lava was thrown over the leads cable, weakening it, and the downrush of crust and lava snapped the thermometer from the leads and Pelé swallowed it. I regret that only one reading was possible, but I have every confidence that it was a good reading. Everything worked just as it should, and, barring the loss of the instrument, there is no criticism of the result to be made. The corrected reading two feet below the surface of the middle of the lake therefore falls at 1000° within the limits of error which can be attained in a field measurement under such difficult conditions (perhaps 25°)."

T. A. Jaggar, Jr.

Professor Lanza and his work at the Institute

In the January Review, Mr. James P. Tolman, '68, chairman of the Corporation committee on the mechanical engineering department will contribute an appreciation of Professor Lanza's work at the Institute with a sketch of his life and his important contributions to the profession.

MECHANICAL ENGINEERING DEPARTMENT PLANS

New Courses in Refrigeration and Gas Engineering Begun—Course in Industrial Management to be Given by Prof. Park—Several Important Changes in Scheme of Instruction.

The department has undergone a number of changes during the past summer. Two members who have served longest on the Faculty, Professor Lanza and Professor Schwamb, have given up active work in the department. This has made necessary a rearrangement of the work among the rest of the teaching staff, as no new appointments have been made to fill these vacancies.

The members of the department believe that some few changes can be made in the distribution of time between the different subjects to the betterment of the course, and that the technical and the theoretical work should be increased even at the expense of the manual work. Our students would profit by a longer course in hydraulics; by more work in electrical subjects; by a more complete course in refrigeration; by additional work on the small gas engine; an additional drill in the use of mathematics, and by a course in scientific German of sufficient length to make it possible for them to read articles appearing in German periodicals. The course in foundry work has been greatly developed during the past year through the energy of the instructor, Mr. O'Neill. On account of the importance to the designer, of this branch of mechanic arts, more time should be given to it.

Although it may not be possible to get all of the above into the course it is hoped that by a reduction in the time devoted to shopwork much may be done to better the theoretical side of the work and at the same time leave the course in shopwork sufficiently complete, so that the students will be familiar with the methods of doing such work, a requirement absolutely essential to the successful designer of machinery.

In the senior year a student has in the past selected one of the five options (*i. e.*, locomotive, mill, marine, heating and ventilation, or steam turbine) and has devoted to this option seventy-five hours in the first term and one hundred and twenty hours in the second term. As the students have had a thorough training in steam, applied mechanics and in other allied subjects they are in a position to start at once on the detail of the option selected and in one hundred and ninety-five hours have heretofore in some cases, we believe, spent too much time on details.

The department feels that a student should have first, a general knowledge of all of the options and then be given more specific instruction in some one option. To this end the department has this year planned to give all of the men during the first term a course dealing with the design of a mill or of a factory building; the fire protection of such a building; the distribution of power; when to use brick and when to use concrete; and the cost. This is to be followed by lectures on the heating and ventilation of such a building, including discussion of air washing and humidifying. A number of lectures are then to be given on the propulsive machinery of a ship, these being followed by some general lectures bearing on the development of the locomotive.

At the beginning of the second term the student decides on the option he is to take and during this term has one hundred and twenty hours allotted to this specialty.

The course in machine design is now under the charge of Professor Haven. The work for the coming year is to consist first, in the completion of the design and calculation of a boiler started in the latter part of the third year. Following this a complete design of a straightening press is to be made. This will involve an application of the efficiency of screws and gear trains, and of the principles governing the design of iron castings. This problem will afford a broad study of static stresses or forces at rest. As an illustration of dynamic stresses the design of a heavy bar-shearing machine of the gate type is to be worked out. This will bring in calculations upon friction losses, the strength of gear teeth and the proportioning of balance wheels. During the second term the forces occurring in a large cast-iron pulley will be analyzed and applied to the design of its various features. Lastly, certain features of the triplex power pump are to be used as an application of combined stresses. Throughout the course many lectures

will be given upon the general proportions of machine parts, in addition to those employed in the above designs.

Professor Riley, who is giving the lectures on dynamics of machines, has changed the course in certain details. Professor Lanza's new book on dynamics of machines is used as a basis for the instruction, and additional illustrations are given by means of a reflectoscope recently purchased by the department.

More time is now devoted to studying the measurement of power by methods applicable to large units and high speeds. Recent forms of transmission dynamometers are studied.

New problems have been introduced, involving the action of rotating and reciprocating parts in high-speed machinery and the calculation of balancing weights for preventing vibration. The purely dynamical study of centrifugal governors has been somewhat abridged in order to gain time for studying some special requirements of governors adapting them to special types of steam distribution. Methods of testing the precision of speed regulation are also discussed.

A review is made of the elementary principles of the dynamics of rotation, leading up to the more difficult subjects of whirling shafts and the rotation of bodies which are not in perfect running balance. Shop methods of testing and correcting the balance of such objects as steam-turbine rotors, armatures and automobile fly wheels are explained. A mathematical study of the gyroscope is not attempted, but a descriptive study is made of the application of the gyroscope to steering and steadying devices.

The subject of mechanical integration and the use of integral curves for solving some of the problems of dynamics which occur in the design of machinery has been developed from lessons which heretofore included only the geometrical proofs of planimeters. Methods of successive integration by means of the planimeter and more complicated instruments like the integraph are applied to determine the moments of inertia of rotating bodies and angular displacements of bodies subjected to the action of varying turning moments.

The course in industrial management will be given by Professor Park. This course will include a study of the staff and departmental organization of an industrial establishment and the relations of the various departments for economy of manufacture. Questions involved in the conduct of accounts, cost factors and the

effect on costs of different systems of distributing indirect expenses, will be considered with emphasis placed on the productive rather than on the commercial side. A study will also be made of the methods of superintendence and of the human factors in the organization and processes of modern manufacturing, as well as the study of the physical factors, the type of factory buildings and the influence of their design and equipment on the productive capacity. An examination of the organization and methods of some of our leading industries will also be made.

The course is too short to attempt to go into the complexity of the problems and questions of scientific management and the aim will be to give the student suggestions on the general nature and different types of factory management, so that he will be better able to confront problems of economic production and commercial duties when they come upon him. It is not expected to do more than to furnish him guidance to enter as a beginner one of the avenues of a productive department which lead to industrial management.

There have been in the past a number of requests from students for additional work in refrigeration. A general discussion of the subject of refrigeration, including the methods of calculating the refrigerating effect, has been given in the third year course in heat engineering, but there has not been sufficient time to go into much detail or to discuss at any length any other than the ammonia compression machine.

The new course in refrigeration offered by Professor Berry as an elective for this year purposes to place before the engineering students, to as great an extent as is possible in the allotted time, a broad presentation of the following important aspects of the subject:

The thermodynamics of the various refrigerants.

A study of the machines and refrigerative systems.

The insulating value of various materials and types of construction for warehouses, ice-plants, refrigerator cars and vessels, etc.

The proper conduct of storage warehouses; including circulation of air, ventilation, area and location of cooling surfaces, temperature, humidity, etc.

Different methods of manufacturing ice.

Liquifaction of gas—preparation of commercial oxygen and nitrogen—distillation and rectification.

It is hoped that this course will not only acquaint the student with the scope and commercial and mechanical aspects of this rapidly increasing branch of engineering activity, but that it will also serve to ground him more thoroughly in the general principles of thermodynamics and to extend his knowledge of engineering thermodynamics beyond the point reached by the general courses in heat engineering.

A discussion of the thermal processes in steam engine cylinders, boilers, condensers, etc., deals with saturated or superheated steam far below its critical temperature. A complete explanation of the action of carbonic anhydride refrigerating machines operating in the tropics requires an investigation of the properties of carbonic dioxide above its critical point and in the sub-cooled liquid as well as the superheated vapor region.

In analyzing steam and gas engine processes the student has become acquainted with the thermodynamics of a single substance, in discussing the ammonia absorption machine he must learn to deal with binary mixtures and become somewhat acquainted with the important subjects of distillation and rectification.

The desire for, and need of, instruction in this subject has been clearly demonstrated by the attendance at the lectures this term. The course is optional with the students and comes at the end of the day's work, yet some fifty students and instructors are attending regularly.

The students get, in their third-year heat engineering, a thermal study of the gas engine, illustrations of the larger gas engine units, the methods of governing and of scavenging, etc., employed in the large units; but little time, however, is given to the small units.

Professor Riley offers for this year an elective course of fifteen lectures on gas and oil engines, to students who have completed the regular instruction in heat engineering—the work to consist of a descriptive study of mechanical details rather than of thermodynamic principles.

The rapid development of gas engines during recent years has made this subject of general interest and frequent requests have been made for a special course of instruction along these lines. Already ten students of the fourth-year class have proposed to make their thesis investigations along some line of research connected with internal combustion engines.

The class work in applied mechanics and in testing materials

of the third, fourth, and graduate years, formerly given by Professor Lanza, has been taken over by Professors Fuller and Johnston, who have in turn transferred some of their class-room work to Messrs. Smith and Holmes. A revision of the courses is being made concerning both the subject-matter and the order of its presentation, and as far as possible these changes are to go into effect with the present third-year class. Professors Fuller and Johnston are engaged in preparing a new text-book on the subject, which it is expected will be ready for use during the next school year.

About two years ago a change was made in the methods of conducting tests in the engineering laboratories. In the past it had been the custom for an instructor to oversee and practically be in charge of the work carried on by the different squads of students. Today the sections are divided up into squads of three, and of the three in each squad one man is put in charge. These three men start the apparatus, conduct the test (under the direction of the student in charge) and write out a written report. From day to day the man in charge of the squad changes, so that every student has an opportunity to start the apparatus and to have under him other students for whom he is responsible. This method of conducting tests we have found to be far superior to the old method; the students take much more interest, and the results are much more satisfactory.

Changes have been made in the courses in mechanical engineering drawing during the last four years, both in the method of instruction and in the work assigned.

In the second-year course there has been introduced a system of preliminary sketches of problems and approval of finished drawings with a view to increasing constructive criticism while the student is working on his problem and decreasing the amount of destructive criticism after the drawing is handed in for a record. Before commencing the full-size drawing of a problem the student is required to prepare a half-size sketch sufficiently complete to indicate clearly the method of solution. This sketch is then submitted to an instructor who talks over the problem with the student and indicates errors, makes suggestions, or points out other methods of solution. This insures the student's understanding of the problem and makes a saving of time in many cases. Every effort is made to have the problem exemplify good current prac-

tice, in so far as is possible. Problems are assigned accompanied by blue prints,—the aim being to increase proficiency in the reading of blue prints as well as to require the student to analyze the mechanisms. Additions have been made to the set of standard miscellaneous machine details and pipe fittings, and the sheets are now lithographed in permanent form for students' further use. Valve gear layouts have been taken from practice, and each student is supplied with a set of blue prints thereof. A problem on the Corliss valve gear has been added as an example of a type of problem requiring a "cut and try" method of solution.

Chief among the changes which have been made in the machine drawing course is the requirement of a group of detail drawings to be made from a second machine after the student has completed sketches, finished detail drawings and an assembly drawing of another machine. In making these detail drawings the student works from sketches made by a classmate of a different group of parts of the machine than that sketched by himself. The assembly drawing is made from blue prints of drawings of a machine which the student has never seen, thereby furnishing excellent training in the reading of drawings. In making the second set of details the student now has better knowledge of the requirements of a working drawing and can carry the work far more comprehensively after the benefit derived from the preceding work.

In place of making a complete drawing of a boiler, the students now begin in the third year the first problem in machine design and carry the design of a horizontal multitubular boiler through the calculation and layout of the joint.

While not practicable to incorporate in the courses a system of checking drawings by the students themselves, a system of approval of drawings by instructors has been introduced. This system aids that part of the instruction which relates to the completeness of the drawings and methods of indicating results, and aims to prevent student carelessness and to eliminate his dependence upon others.

The mechanical laboratories which were formerly under the sole charge of Professor Schwamb, have been incorporated as a subdepartment of the mechanical engineering department and Professor Park has been appointed director by the department to supervise the running of these laboratories.

R. R. Heuter, who has been at Charlottenberg for two and one

half years on leave of absence returns to the department of machine design at the beginning of the second term. Heuter takes the examination for the degree of doctor of engineering in November.

C. A. Robb, a graduate of McGill University, who took the degree of M. S. at the Institute in 1910, has joined the teaching force of the department.

The assistants engaged in place of those who left are: J. S. Beamensderfer, A. M., M. E., Cornell University; T. H. Haines, S. B., M. I. T.; A. L. Gardner, S. B., M. I. T.; R. G. Adams, S. B., M. I. T.; H. W. Waterfall, S. B., M. I. T.

It is the intention to have a number of outside lecturers address the students in the department during the coming year. Among those who have signified their willingness to give such lectures are: William W. Dodge, Odin B. Roberts, Prof. Ira N. Hollis, Richard H. Rice, Charles T. Main, I. E. Moultrop, R. E. Curtis, Howard L. Coburn, Kenneth Möller and F. A. Hannah.

Will of Nathaniel Thayer

The will of Nathaniel Thayer, a member of the Corporation of the Institute who died March 23, was made public during the summer. By the terms of the will $250,000 is given to the Boston Museum of Fine Arts, and $50,000 each to the Massachusetts Institute of Technology and the Massachusetts General Hospital, these being his largest public bequests. The entire estate is estimated at $10,000,000.

Mr. Thayer was the son of Nathan Thayer, who was influential in the construction of western railroads, and Cornelia Van Rensselaer Thayer, daughter of Gen. Stephen Van Rensselaer of Albany. General Van Renesslaer was a descendant of the Rev. John Cotton, a Boston minister prominent in New England history. Mr. Thayer inherited $2,000,000 from his father, and increased his inheritance considerably. He was twice married, his first wife, Miss Cornelia Barroll of Baltimore, leaving him three children, one of whom, Miss Cornelia Thayer, married Count Von Moltke, the Danish minister to the United States. His second wife was Miss Pauline Revere, a descendant of Paul Revere.

IN HONOR OF RETIRING PROFESSORS

Professors Lanza, Chandler and Schwamb Guests at a Dinner Given by Members of the Faculty

It is sometimes said of bank presidents that "they seldom die and never resign." To the young Institute alumnus who returns to his early reunions and finds his old professors still at the helm the saying may seem equally to apply to members of our Faculty. But the man of longer acquaintance with our history knows that quietly, but steadily, and more rapidly than most realize, the personnel of our teaching force is changing. Members of the "old guard" are dropping out, by resignation or in obedience to the call that finally summons us all, and their duties are being taken up by younger men.

Doubtless most of our alumni now know that since the close of the past school year, three men, Professors Lanza, Chandler and Schwamb, have resigned from our Faculty. It was to give their colleagues a convenient opportunity to meet them and to extend to them good wishes, as well as from a desire to show the high esteem in which they are held, that a dinner was tendered to them by the Faculty on Thursday, October 26th, at the University Club. Between forty and fifty members, representing every department of the Institute, were assembled on this occasion, which brought out so strongly the element of brotherly good feeling that the sentiment was expressed by more than one that a Faculty dinner ought to be made an annual affair.

A half-hour's informal reception gave all a chance for a word of greeting to the guests of the evening. Following the dinner Professor Dewey, chairman of the Faculty, presided as toastmaster, and it is hardly necessary to say that he did so to the eminent satisfaction of the company.

In the absence of Professor Lanza, whose engagements in Philadelphia would not permit his presence here, Professor Richards delivered a cordial message received from him conveying his good

wishes to his former colleagues and expressing his pleasure at their kindly remembrance of him. Professor Richards then outlined the history of Professor Lanza's long connection with the Institute, covering forty years and beginning with his appointment as instructor in mathematics in 1871. Four years later he became professor of theoretical and applied mechanics, and for the past twenty-eight years has been in charge of the department of mechanical engineering. Reference was made to his success in gathering about him a strong force of younger men for carrying on the work of instruction and research in the department, to the great enlargement which has gone on in its experimental plant, and to the early and widely known tests on beams of commercial size which he inaugurated.

Turning next to Professor Chandler, whom he addressed as the "prisoner at the bar," Professor Dewey bade him say what he could for himself. His defense was conducted in that genial spirit which has won for him the affection of all who know him. He said he felt well able still to perform his duties, but jokingly explained that he preferred to have his friends say to him "Chandler, why did you resign" rather than delay until they should be moved to say "Chandler, why don't you resign." From the catalogue of 1888, the year in which he came to the Institute to assume charge of the department of architecture, he read the roll of the Faculty of that day, twenty-eight in number, but ten of whom are today actively associated with the Institute. Reference to the "Partial Architect," as he was then known, revived memories of a course which has long since been abolished. His characterization of Professor Tyler, who in 1889 became secretary of the Faculty, as the "only man at the Institute whom I feared," brought a round of laughter, from no one more hearty than from the innocent cause of that terror. Our regret at Professor Chandler's retirement from the position so long held was tempered by his welcome declaration that as professor emeritus he hoped still to render much service to the Institute in connection with its coming development.

Professor Schwamb was then called upon and gave some account of the work upon which he entered in 1883 under Professor Lanza. The admirable system built up in the mechanical laboratories, by which the principles of good workmanship are taught by application, but without such repetition as might be needed if the aim

were mainly to produce expert shop workmen, called for severe and unremitting effort and involved a load of responsibility and detail which has been, perhaps, but faintly appreciated by many of Professor Schwamb's colleagues. During vacations as well as in term time his labors continued almost incessantly, until he was at length compelled to take rest. The year 1890–91 he spent in foreign travel, returning to resume his duties at the Institute, which he now finds he must lay down for the protection of his health. He may have the satisfaction, however, of knowing that under his direction an important branch of our work has been developed upon a sound, rational basis and to a high state of efficiency. He is entitled, with the other professors who retire at this time, to a share in those simple words of praise which Doctor Dewey pronounced to be the highest, after all, that can come to any man,—"Well done."

DWIGHT PORTER.

Will of W. E. Chamberlin, M. I. T., '77

The will of William E. Chamberlin, '77, of Cambridge, who died suddenly at Manchester, Mass., August 6, 1911, gives $500 to the Boston Society of Architects, of which he was a member, and leaves the remainder of the estate to his wife, Emily D. Chamberlin.

It provides that upon her death two sevenths of the estate shall be given to the Cambridge Hospital, an equal amount to the Cambridge Home for Aged People and one part each to the Avon Home, Holy Ghost Hospital and Massachusetts Institute of Technology for use in its architectural department.

New Register of Former Students

The work of compiling a new Register of Former Students is now going ahead in earnest and it is expected that it will be published sometime in the spring. In the new publication an attempt will be made to get an accurate record of every man listed. Your co-operation will be of great assistance.

STEADY INCREASE IN ENROLLMENT

Fifteen Hundred Sixty-seven Students Registered this year—New men alone represent ninety-seven different colleges—There are students from twenty-six foreign countries and many candidates for advanced degrees

Attendance at the Institute continues to increase slowly as it has for several years past. It has a present enrollment of 1567 and is within 41 of the high water mark record of 1902–3, the last year of the $200 tuition fee. For the last five years the figures have been:—1907–8, 1415; 1908–9, 1461; 1909–10, 1479; 1910–11, 1506; 1911–12, 1567.

The number of college men attending the Institute continues to be large. There are 81 graduates of other colleges among the new men, and 79 who have attended other colleges but who have not been graduated. There are 609 new men coming to the Institute, and 400 in the freshmen class.

The colleges sending new men:—University of Alabama, University, Ala., 1; Amherst, Amherst, Mass., 1; Annapolis Naval Academy, Annapolis, Md., 1; Armour Institute, Chicago, Ill., 5; Bates College, Lewiston, Me., 1; Baylor University, Belton, Texas, 1; Bowdoin College, Brunswick, Me., 1; Brooklyn Polytechnic, Brooklyn, N. Y., 1; Brown University, Providence, R. I., 1; Boston University, Boston, Mass., 3; University of California, Berkeley, Calif., 3; Case School of Applied Science, Cleveland, Ohio, 5; Chekiang Provincial College, China, 1; Chinese Naval College, 1; Colby, Waterville, Me., 2; Colorado College, Colorado Springs, Colo., 2; Columbia, New York City, 2; Cornell, Ithaca, N. Y., 2; Dalhousie College, Halifax, Nova Scotia, 1; Dartmouth College, Hanover, N. H., 5; Denison University, Grandville, Ohio, 3; Drake University, Des Moines, Iowa, 1; Fu-chou Provincial College, China, 1; Furman University, Greenville, S. C., 1; Georgetown College, Washington, D. C., 3; Georgia School of Technology, Atlanta, Ga., 1; Grinnell College, Grinnell, Iowa, 1; Grove City College, Grove City, Pa., 1; Harvard University, Cambridge,

Mass., 5; Haverford College, Haverford, Pa., 1; Heidelberg, Tiffin, Ohio, 1; Holy Cross College, Worcester, Mass., 1; Imperial Polytechnic College, Shanghai, China, 4; University of Illinois, Urbana, Ill., 2; Kenyon College, Gambier, Ohio, 1; Lafayette College, Easton, Pa., 2; Leland Stanford University, Stanford University, Calif., 1; McGill University, Montreal, Canada, 1; Massachusetts Agricultural College, Amherst, Mass., 1; Miami University, Oxford, Ohio, 1; Michigan State Agricultural College, Agricultural College, Mich., 1; Michigan State Normal, Ypsilanti, Mich., 1; Military Academy of South Carolina, Charleston, S. C., 1; University of Minnesota, Minneapolis, Minn., 3; Nanking Naval College, China, 1; National College of Paraguay, 1; National College of Syria, 1; University of Nebraska, Lincoln, Neb., 1; College of the City of New York, New York City, 2; North Carolina College, Mount Pleasant, N. C., 1; University of North Carolina, Chapel Hill, N. C., 1; North Dakota Agricultural College, Fargo, N. D., 2; Oberlin, Oberlin, Ohio, 1; Occidental College, Los Angeles, Calif., 2; Pennsylvania College, Gettysburg, Pa., 1; University of Pennsylvania, Philadelphia, Pa., 2; University of Pittsburgh, Pittsburgh, Pa., 1; Polytechnic School of Bahia, 1; Princeton, Princeton, N. J., 4; Purdue University, Lafayette, Ind., 1; Queen's University, Kingston, Ont., 1; Radcliffe, Cambridge, Mass., 1; Randolph-Macon College, Lynchburg, Va., 1; Richmond College, Richmond, Va., 1; University of Rochester, Rochester, N. Y., 1; Rose Polytechnic Institute, Terre Haute, Ind., 1; Royal Military College of Canada, 2; Rutger's College, New Brunswick, N. J., 1; Sewanee University of the South, Sewanee, Tenn., 1; Sheffield Scientific School, New Haven, Conn., 1; Shuntien College, China, 1; Spring Hill College, Mobile, Ala., 2; State Agricultural College of Colorado, Fort Collins, Colo., 2; St. Mary's College, 2; Syrian Protestant College, Beirut, Syria, 1; Syracuse University, Syracuse, N. Y., 1; Tangshan Engineering and Mining College, 1; University of Texas, Austin, Texas, 4; Trinity College, Hartford, Conn., 3; Tufts College, Medford, Mass., 6; Vanderbilt University, Nashville, Tenn., 1; University of Virginia, Charlottesville, Va., 4; Virginia Polytechnic, Blacksburg, Va., 1; Virginia Military Institute, Lexington, Va., 4; Washburn College, Topeka, Kan., 1; Washington and Lee University, Lexington, Va., 1; Washington and Jefferson College, Washington, Pa., 2; University of Washington, St. Louis, Mo., 2;

West Point Military Academy, 2; Whitman College, Walla Walla, Wash., 1; Williams, Williamstown, Mass., 6; University of Wisconsin, Madison, Wis., 3; Worcester Polytechnic, Worcester, Mass., 4; Wuchang Provincial College, China, 1; Yale, New Haven, Conn., 1; Yankton College, Yankton, S. D., 1.

There are now at the Institute 29 Chinese sent here by the Imperial Government as well as 7 other Chinese students, making 36 in all. There are more foreigners at the Institute than ever before, the number being 100. They represent 26 countries as follows: Argentine Republic, Australia, Brazil, Canada, Central America, Chile, China, Cuba, Egypt, Ecuador, France, Germany, Great Britain, Greece, Hawaii, Honduras, Japan, Mexico, New Zealand, Ottoman Empire, Paraguay, Peru, Porto Rico, Russia, Switzerland and Syria.

The figures of registration will not be available until December, but the above is very nearly correct. There are ten candidates for the degree of Doctor of Philosophy; 3 for the degree of Doctor of Engineering; 27 for the degree of Master of Science, and 4 Resident Fellows. There are 7 women registered as regular students.

Following is a partial list of sons of former students registered this year: Baker, D. F., son of David Baker, '85; Bryant, W. A., son of Henry F. Bryant, '87; Capen, G. P., son of George H. Capen, '83; Crosby, I. B., son of William O. Crosby, '76; Duff, J., Jr., son of John Duff, '81; Faunce, K. W., son of Linus Faunce, '77; Fiske, C. P., son of J. Parker B. Fiske, '89; Freeman, R. M., son of John R. Freeman, '76; Lawrence, G. C., son of James W. Lawrence, '79; Loveland, E. M., son of James W. Loveland, '89; Ober, C. H., son of Arthur J. Ober, '92; Otis, H. N., son of Margaret Noyes (Mrs. C. P.), '82; Tenney, J. B., son of Frank Tenney, '83; Pickering, H. B., son of Oscar W. Pickering, '89; Plimpton, L. R., son of Arthur L. Plimpton, '77; Schwarz, L. B., son of Theodore E. Schwarz, '76; Stimpson, E. F., son of Thomas F. Stimpson, '77; Woodbridge, S. T., son of S. Homer Woodbridge, '79.

The annual dinner of the Alumni Association will be held on Wednesday evening, January 3. It will be an important meeting and will begin a year of the greatest development in our history.

COUNCIL HEARS ABOUT THE SITE

President Maclaurin, Mr. Wigglesworth and Mr. Morss tell about Charles River Basin tract and why it was selected—New By-law proposed to comply with Post Office ruling

At a meeting of the Alumni Council held at the University Club, October 23, President Maclaurin, Mr. Wigglesworth and Mr. Morss, '85, members of the Corporation committee on site were present, and gave a description of the property as well as the story of its selection. Doctor Maclaurin said that nothing now remained to consummate the purchase of the land on Charles River Basin, except an act by the city of Cambridge officially closing certain streets on the tract and the delivery of a good title to the property. He hoped that the whole matter would be happily solved before long. He spoke of the various considerations for and against the five sites considered and the reasons why the final selection was made. He referred briefly to the large amount of money that would be necessary to erect the buildings and expressed his full confidence in the ability of the alumni and friends of the Institute to secure the necessary funds.

Mr. Wigglesworth thought that the site chosen gave reasonable prospect of being a permanent location. No other site could have afforded the same element of stability that this one does. He said that the Corporation appreciated the spirit in which the announcement of the choice of location had been received even by those who had preferred some other site. He believed that the whole matter had come to a successful and very happy conclusion.

Mr. Morss quoted a Boston citizen who expressed the opinion that the building of the Institute buildings on the site selected would afford the most dignified advertising that any institution of the kind could possibly have. He spoke of the esplanade park which is an additional asset to the site and that without expense. In referring to the development of the property on a proper scale, he said that while former students of the Institute will be called

upon to contribute as generously as their means will afford, it will be impossible to raise all the money necessary, but he hoped that every man who has an interest in the matter will do what he can and do it promptly when the time comes. One alumnus of the Institute, duPont, '84, has made this whole expansion possible. The aid recently voted by the State was an absolute necessity. The signing of the bill by the Governor was an expensive thing for the Institute alumni. They were tired of paying last year's coal bills, although they had done it cheerfully for five years, but would respond with alacrity if their money could be devoted to the general purposes of constructing the new buildings.

Frank E. Shepard, '87, president of the Denver Engineering Works, Denver, Colorado, who was present at the meeting, told of the great interest that the men of the West have in Technology and how thoroughly in sympathy they are with this movement. He was delighted with the choice of the Charles River Basin site and was impressed with its great possibilities for development. He felt that when the men of the West were asked to contribute funds, the response would be hearty and spontaneous.

The following proposed amendment to the by-laws was presented by the executive committee of the Alumni Association to conform to the ruling of the Post Office Department:

> The payment of fifty dollars at any one time shall exempt any member from further payment of dues, and the treasurer of the committee on permanent funds shall pay each year to the treasurer of the association, one dollar for the subscription of such a member to the TECHNOLOGY REVIEW so long as it is the official organ of the association.

This was proposed to take the place of the present section 2, of article VI which reads as follows:

> The payment of twenty-five dollars at any one time shall exempt any member from further payment of dues.

The executive committee was authorized to publish this in the REVIEW and to present it to the Council for action at some subsequent meeting when it shall have been published thirty days.

It was thought best to hold the REVIEW forms open to give our readers a report of the hearing before the Cambridge City Council, November 14.

ARCHITECTS HONOR PROFESSOR CHANDLER

Dinner given to the retiring head of the Department of Architecture by the Boston Society of Architects—Speeches, gifts and good feeling abundant

Professor Francis W. Chandler, the retiring head of the department of architecture at Technology was the guest of the Boston Society of Architects at a dinner given October 27. Among those in attendance were representatives of almost every organization which has been associated professionally with Professor Chandler, including of course, students of the department and many intimate friends.

In introducing President Maclaurin, the first speaker of the evening, Mr. R. Clipston Sturgis, president of the Boston Society of Architects, spoke of the great future that is opening for Technology in every branch of science and particularly of the great force the architectural department is exerting toward improving architectural standards in this country. Doctor Maclaurin paid a graceful tribute to Professor Chandler outlining his connection with the department and gave some idea of the debt the Institute owes to him for his accomplishment of elevating the standard of the department to the highest place. He said that Professor Chandler had made a symphony concert of the department in the harmony that had prevailed during the years he had charge of it.

In the absence of Professor Lowell of Harvard who was out of town, Professor Warren, of the Harvard Architectural Schools, presented congratulations and good wishes from the university as a whole, and particularly from the department of architecture.

Professor Lared of the architectural department of the University of Pennsylvania expressed his personal gratitude for the assistance and advice that Professor Chandler had given to him and his department.

Mr. Robert S. Peabody, of the Corporation, an intimate friend and colleague of Professor Chandler, referred to his early life, his bravery as a soldier in the Civil War and his big heart and manly qualities which endeared him to all his associates. He said in

conclusion that it is great to be modest, it is great to be a good architect, it is great to have made the Institute the foremost architectural school in the country, to be sought after by all for advice, but it is far greater to have a big and overpowering love for all mankind.

Professor Despradelle was unable to attend the banquet, but was represented by Mr. Howard Walker who voiced the deep regret of the architectural department on the departure of their friend and guide. Mr. Walker then presented Professor Chandler with an illuminated vellum engrossed with the sentiments of the department and read a letter from Professor Despradelle.

Mr. J. H. Parker, '97, who represented the former students, sang a song dedicated to Professor Chandler and written by Mr. Stanley Parker.

President Harkness of the Technology Architectural Society voiced the feelings of the students on the departure of their loved professor and presented him with a loving cup as a tribute from the society.

Professor Chandler responded in a happy vein only to be called to his feet again by Mr. Newhall, president of the Boston Architectural Club. He announced that the guest had been made an honorary member of the club, an honor which has been given only to six other men.

President Sturgis then presented him with a handsome watch, the gift of the Boston Society of Architects, and stated that a medal had been founded for fifth year students in the department of architecture at the Institute in the name of Francis W. Chandler.

Among the other speakers were Mr. A. W. Longfellow and Mr. Arthur G. Everett.

Nearly Five Thousand Circulation

A year ago the REVIEW congratulated itself that it had reached a circulation of 4200 copies. The circulation today is 4800. The printer's order for this issue, however, is 10,600, as a copy is being sent to every former student so that he may know of recent important developments. The advertising rates, which are based on less than half this circulation, have not been increased. The rates are given on the third advertising page of this number.

NEWS OF ALUMNI ASSOCIATIONS

New York Club taking great strides ahead—Many activities planned for the winter—Season's program of Pittsburgh Association—Cincinnati men have summer picnic—Doings in Minnesota—Puget Sound Club Entertains ex-Governor Draper

THE TECHNOLOGY CLUB OF NEW YORK.—The new year of activity at the club house has been enthusiastically inaugurated a month earlier than usual. During the summer and late into the fall, the out-of-door dining pavilion was an attractive resort and the house was more popular than ever. Class dinners are now in full swing, '07, '08 and '10 among the leaders. On September 25, the class of 1910 assembled at a special dinner to 1911, given by authority of the board of governors. About thirty men were present including thirteen 1911 men and the affair was conducted very gracefully by Guy Shaffer, '10, chairman of the class reunions committee, with the president, secretary and two members of the board as guests. Mr. Martin, '11, was appointed to look out for 1911 men in New York.

On September 29 a vaudeville smoker, demanded as the result of the surprising success of the June vaudeville smoker, opened the season. With a clever man at the piano, the members joined in Tech songs, a monologue artist continued the jollity, a legerdemain and mind-reader man performed some marvelous stunts with the aid of the usual paraphernalia and several obliging but somewhat disconcerted members, whose minds were amazingly well read, and the star of the evening was a very popular young lady with a most melodious voice.

Between the acts the president welcomed the members and particularly 1911 men, present by special invitation in accord with the custom of receiving members of the graduating class at the opening smoker. An enthusiastic response greeted the suggestion that, as the term on the Corporation of the Institute of George W. Kittredge, '77, our vice-president, expires in 1912,

New York is entitled to retain its representation and as it is rumored that a New York man of ability and fitness has been nominated by the Alumni Association,—call him Smith,—he should for the good of the Institute, New York, Boston and all the alumni, be overwhelmingly elected. We feel confident that the alumni wherever situated will recognize that by maintaining New York's representation, a valuable element of strength will be gained by the Institute, not only in the work of the Corporation, but in developing her alumni coöperation. Thus it is now proposed that a luncheon be given to our candidate, October 27, which will bring an outpouring of New York men, both members and non-members of the club.

The second event of the season was an address Wednesday evening, October 11, by Roger W. Babson, '98, of Technology, whose articles relating to financial topics in the *New York Times* and other publications are well known. The subject, "Methods of Anticipating Business Conditions," afforded special interest to all our members whose success necessarily depends upon business activity. In the early part of the same evening Van R. Lansingh, '98, chairman of the annual dinner of 1912 to be held January 20, and to which all Tech men everywhere are invited, met with his committee of fifteen members to arrange details for a thoroughly successful and unique banquet which he states will surpass all prior records in attendance, interest and enthusiasm.

Plans are already being formulated for further development of the club. Our membership has increased to 530 and we are fast outgrowing the club house accommodations. A finance and building committee including James A. Emery, '93, George W. Kittredge, '77, and Ralph H. Howes, '03, is preparing an analytical statement of needs, resources and feasible plans for additional facilities, to form the subject of a special meeting of the club during the year.

Of special interest have been recent successes of several of our members. On completion of his cross-country flight from St. Louis to New York a telegram of congratulation from the club was sent to Harry N. Atwood, '05. John D. Moore, '95, is now presiding at Albany as conservation commissioner of the state, with his usual energy and ability. Alex. Rice McKim, '86, has just been appointed by the commission, inspector of dams and reservoirs, and will make exhaustive reports as to dams and res-

ervoirs throughout the state to prevent such calamities as recently occurred at Austin, Pa. H. K. White, '99, was recently a successful competitor for architectural design and erection of a group of buildings for the State Capitol of Washington. James C. Duff, '86, for four years in charge of Federal food inspection in New York and vicinity, from which position he resigned this year to resume private practice, received in the August number of the *National Food Magazine* a very complimentary statement of his work as consulting expert and chemist. Norman Paul Gerhard, '06, who recently wrote a treatise on "The Water Supply, Sewerage and Plumbing of Modern City Buildings," has been awarded honorary degree of Doctor of Engineering from the Technical University of Darmstadt, Germany. And Mr. Kai Tse, '08, of Kwangtung, China, who, with a number of students in his charge, has been for the last two years investigating mines in Arizona and visited the club in September before returning to China, was the subject of an interesting article in the *New York Sun.*

Meanwhile our committee on business opportunities is acquainting New York men with new possibilities for success.—*William H. King, '94, President, 17 Gramercy Park, New York City.*

Pittsburgh Technology Association.—The Pittsburgh Association has entered the season of 1911–12 with a program that will surpass in interest those of former seasons.

Four general meetings have been scheduled: The first to be held on November 18 next; the second about January 13; the third, the annual dinner about the second week of March; the fourth about May 11, 1912. The feature of the first meeting will be a grand rally smoke—with buffet lunch finale. There will be an address by one of the "commission councilmen" of the city of Pittsburgh on the subject of "The Demand for Technical and Business Men in City Government."

Technology bequests and financial interests will be reviewed with the idea of keeping this subject alive.

The meetings of the association will be held at the University Club, Grant Boulevard.

Definite outlines of future meetings and attractions will be furnished later, and we earnestly request all visiting Tech men "to drop in" on us whenever possible to do so. The secretary's office

is open twenty-four hours of the day where information will be cheerfully furnished.

The offices of the secretary-treasurer of the association will be moved to 5810 Murrayhill Place, Pittsburgh, Pa., after November 1, 1911. Officers, season 1911–12:—president, Warren I. Bickford, '01; vice-president, Fred Crabtree, '89; secretary-treasurer, L. K. Yoder, '95; executive committee, Morris Knowles, '91, W. E. Mott, '89, Edward Seaver, Jr., '01; alumni council representative, H. H. Rapelye, '08.

Charles F. F. Campbell, '01, secretary of the Pennsylvania Association for the Blind, has tendered his resignation to this institution, and accepted the management of the Blind Associations of the entire state of Ohio. Mr. Campbell is now located at Columbus, Ohio. While we miss his beaming countenance and most agreeable fellowship, we are glad he has remained in the Pittsburgh district of the association and look to him for his ever ready support in Tech affairs. Everyone wishes him continued success in his great work.

Waldso Turner, '01, has returned from the West, where he sought entire rest to recuperate from a six months' illness. "Casey" is on the job again and can be counted on to assist in the program of 1911–12. We are mighty glad to see him back at the old stand, Iron City Engineering Company, Frick Building, Pittsburgh.

H. M. Hallett, '11, has returned to Pittsburgh to continue his work with the Unit Construction Company, builders and erectors of all classes of concrete construction, on the unit plan basis.

Norman Woolridge, connected with the Equitable Life Assurance Company at Pittsburgh, Pa., has been elected a member of the Alumni Association and we are glad to have him with us.—*L. K. Yoder, '95, Secretary-Treasurer, 5810 Murrayhill Place, Pittsburgh, Pa.*

Cincinnati M. I. T. Club.—Since the latest news from this hustling Tech aggregation some things have happened of more or ess general interest. Our annual summer picnic outing came off in due course and although Hooker, who had been appointed baseball commissioner, failed to produce his troupe of hitters, we fell back on that good old standby, duck-on-the-rock, formerly practised on the Pierce Building mall.

After a hearty luncheon, the pictures taken at the last Tech-

nology reunion were thrown on a screen as well as a number of up-to-date slides, provided by the alumni office, which had never previously been shown. Since the outing the lunch attendance has braced up a little, and as soon as cooler weather comes on we expect the regular meetings at the Bismarck Grill, on Tuesdays, from 12 to 1 p. m. to become the center of an enthusiastic Tech throng.

We have had several additions lately to our club—both active and associate. Of the active, Kruckemeyer and Strong, both 1911, have returned to the city and are expecting (or I should say expected) to do their share. Dickinson, '08, is here now in capacity of assistant surgeon of U. S. Marine Corps in recruiting service.

The firm of Garber & Woodward, both '03, has just been singularly honored by their selection as associate architects with Gilbert of New York in the design and erection of a new 24 to 30 story building here on the site of the lamented Chamber of Commerce. The new building is to be the home of the Union Central Life Insurance Company.

These two Tech men together with Tietig and Lee, both of '98, seem to have been very fortunate in providing the city with its new school houses and Carnegie libraries.

Tietig is now a double Roosevelt member with Schaefer, '05, and Hooker, '97, pushing him for the honors. I believe if the roster of the Cincinnati Club was called we would more than show up with our percentage of future Tech men and co-eds.

Our organization is not quite like some of the others in our sister cities. Most of our men are of the old guard and we have not the numbers of the newer generation that the Pittsburgh and Chicago clubs have, so that our meetings other than our weekly lunches are somewhat irregular. It is our hope this winter to have a few more evening meetings at which those who are not able to meet at lunch can join us.

On the evening of October 7 the University Club of Cincinnati opened its season with an intercollegiate smoker for all the local alumni associations. Some three hundred college men accepted the invitation and the fun was fast and furious. It would be hard to find an occasion other than big intercollegiate athletic meets at which there were more diversified songs and college yells. Statistics are not available to show the number of different colleges represented, but M. I. T. was there with a full quota.

Meetings such as this tend very materially to renew the Alma Mater feeling as well as good fellowship and our club feels much inspired to more frequent informal gatherings for the coming winter and hopes to make M. I. T. in Cincinnati stand out and mean something.

We have had two more associate members added to our list within the past few weeks. Dixon, '06, announces a future co-ed and Garber, '03, goes him one better by informing us that his son is to be a full fledged Techite.

The question has arisen as to whether it would not be an advisable plan for our club to secure, as an organization, one or more non-resident memberships in the New York Club and the matter has been taken up with that body, the point being that as New York probably has the largest body of alumni outside of Boston many of the Western men going East would feel free to avail themselves of the comforts of that club.

The Cincinnati M. I. T. Club has luncheon regularly on Tuesdays at the Bismarck Grill from 12 to 1.30 and hopes to see visiting Tech men there.—*Stuart R. Miller*, '07, *Secretary, 3366 Morrison Avenue, Clifton, Cincinnati, Ohio.*

Technology Club of Minnesota.—Very little of interest to Technology in general has transpired here during the past summer. The members have been scattered, some living in the country, and others,—numbered among the more fortunate,—have been basking in the luxury of vacations.

The Secretary has endeavored to obtain an accurate list of the members of the club and eligible Technology men living in the state, and has found many names on his lists,—culled from local information and graduate registers,—to be either non-existent or obsolete. New names have been added, however, so that our total of sixty-two members has been kept practically intact.

Of these men, ten are located in Duluth, six on the Range, and forty-five in the Twin Cities, of which Minneapolis boasts twenty-eight. The president of the club, Henry Yoerg, '95, is a St. Paul resident while the remaining three officers are located in Minneapolis.

The club plans to hold informal gatherings every two weeks during the winter and the younger members are being counted upon to provide more or less music, and in fact, to put a spirit

into the club which it has lacked, mainly from the fact that the majority of the members have been long removed from the Institute and possibly excusable for this reason for some of their lack of interest in things Technological.

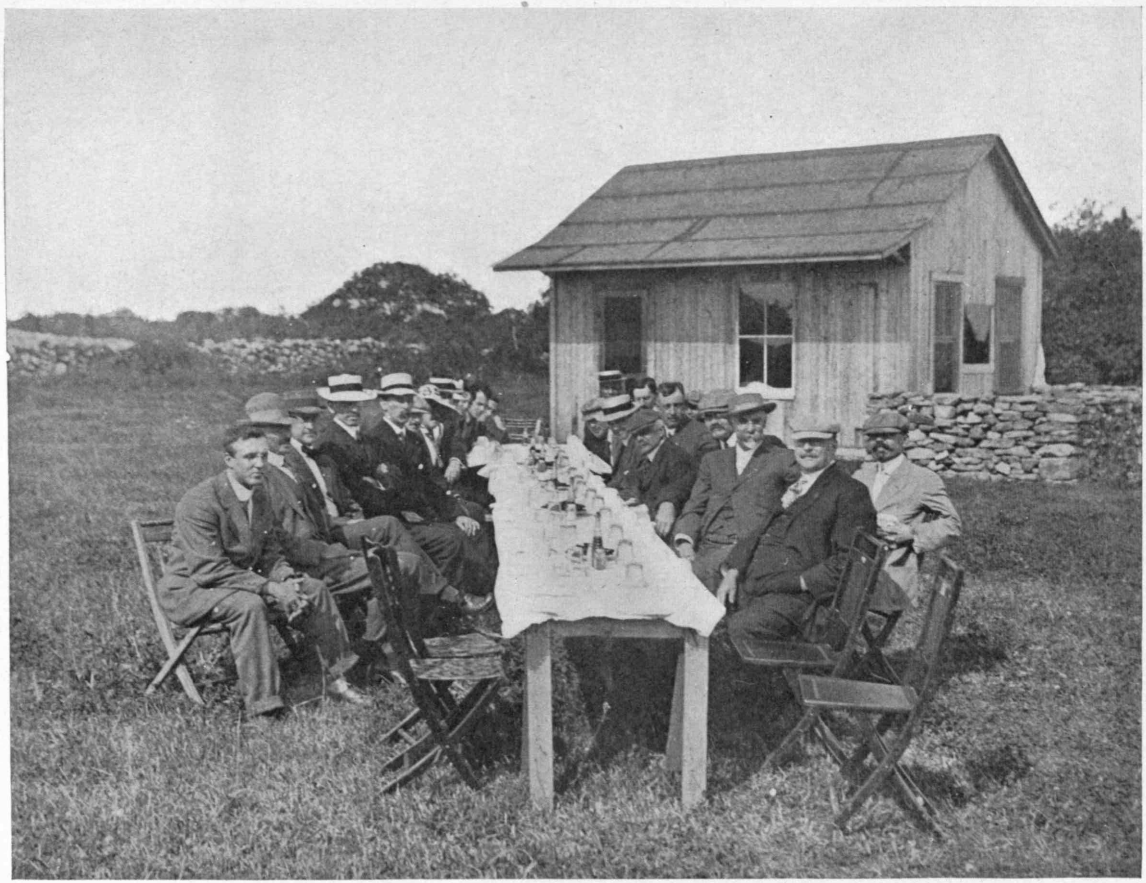
The Minnesota Club extends greetings to her sister clubs and wishes them success and prosperity for the coming winter.—*Clifford C. Hield, '10, Secretary, 1722 Fremont Avenue, South, Minneapolis, Minn.*

Technology Club of New Bedford.—Twenty-four members of the Technology Club of New Bedford sat down to the annual clambake at George Nye's country place, near Horse Neck, on Saturday, October 14.

It was a good bake, and afterwards, leaving Roy Swan to finish the lobsters and the beer, the rest of the guests adjourned to an adjoining field where a game of ball was played that has not been equalled in any league this season. Captain Earl's team won 23 to 9. Then came a tug-of-war in which the superior strength of Captain Wing's team overcame the preponderance of weight as represented by Captain Young's team.

An invitation had been extended to Harry Atwood, '05, who was flying in New Bedford that day, to visit the bake, but owing to an accident he was unable to attend.—*Charles F. Wing, Jr., '99, Secretary, 36 Purchase Street, New Bedford, Mass.*

Technology Club of Puget Sound.—A luncheon given to the Hon. Eben S. Draper, '78, ex-governor of Massachusetts, on July 8, called out all the men in this part of the country and was a very happy occasion. A number of prominent state and city officials were present to meet our guest. Activities for the coming season have not yet begun, but we expect to have a very lively winter as soon as President Dabney returns to start the ball rolling. —*L. A. Wallon, '04, Secretary, Seattle Electric Company, Seattle, Wash.*



MEMBERS OF THE NEW BEDFORD CLUB WAITING FOR THE BAKE TO BE OPENED

MANY CHANGES IN TEACHING STAFF

The official list of changes in the instructing staff shows that there have been forty-three replacements of last year's professors or instructors plus five additions, forty-eight new men. Chemistry and electric engineering are the departments in which the largest additions have been made. In chemistry the changes include the promotion of five instructors or assistants and the addition of six. In electrical engineering three additional instructors may be noted. Associate Professor Harrison W. Smith is abroad on leave and the department has selected W. S. Gorton from Johns Hopkins to fill the gap.

In the department of mechanical engineering Professor Gaetano Lanza has been made emeritus and Professor Chandler and Professor Peter Schwamb retire. Chemistry lost Mrs. Ellen H. Richards at the end of last term and her place has not been filled. R. S. Williams and W. T. Hall have been promoted from instructors to assistant professors, while Gilbert N. Lewis moves up from assistant professor of chemical research to full professor. In biology and public health, Instructor Selskar M. Gunn becomes assistant professor, returning to the Institute after a season of special work for the municipality of Milwaukee. In mathematics E. B. Wilson becomes professor and in military science Major E. T. Cole replaces Major E. V. Bookmiller. Those who have had business with the president's office will miss his assistant of last year, Maurice R. Scharff, who has taken a position with the New Jersey State Board of Health.

No more Associate Members

By virtue of the vote of the Alumni Association abolishing associate membership, and making all former students eligible to full membership in the association, the executive committee of the Alumni Association recently passed the necessary vote making all associate members in good standing, full members. Hereafter there will be no such distinction made.

PROFESSOR BARDWELL GOES TO CLEVELAND

Prof. Fred L. Bardwell, '84, resigned his position as assistant professor of chemistry at the Institute and became identified with the Case School of Applied Science at Cleveland at the beginning of the fall term.

Professor Bardwell was one of thirteen of '84's men to come back to the Institute as assistant on graduation. He served for two years under Professors Nichols and Norton and since that time with Professor Pope. In 1889 he was virtually director of the laboratory of general chemistry, which position he held until last June. In 1903–4 he spent a year abroad studying with Ostwald at Leipsic.

In collaboration with Doctor Norton after Professor Nichols' death, he edited the familiar "Laboratory Experiments" which reappeared frequently in revised editions.

For a number of years he gave instruction in chemistry in the Boston Normal School of Gymnastics, whose classes, like those of Boston University, received some scientific training at the Institute. Surprise was sometimes expressed that in these days when research is such a word with which to conjure, no researches came from his pen. The reason for this is to be found not in his lack of desire for research or of appreciation of its worth, but in his high sense of duty to his students, and the lack of time for thought and of a congenial place in which to carry it out. He was, however, much interested in rubber chemistry and devised a process for rubber reclaiming.

Professor Bardwell is an excellent teacher and a most faithful and conscientious man: if it were a question of elucidating a point to a student or spoiling one of his own experiments, the experiment was spoiled; and this was of no infrequent occurrence.

He has full charge of freshman chemistry—lectures and laboratory work—at the Case School of Applied Science, writes enthusiastically of his work and prospects, and is delighted with Cleveland.

A. H. G.

NEWS OF THE INSTRUCTING STAFF

Professor Davis R. Dewey served as delegate of the Institute at the inauguration of Guy Potter Benton as president of the University of Vermont, October 6.

Among the distinguished lecturers which have been secured by the Harvey Society for the coming year is Professor William T. Sedgwick.

President Maclaurin spent a part of August and all of September in Europe where he made a study of British institutions for technical training.

Among the professors who spent their vacation abroad this summer were Professor Spofford, Professor Peabody, Professor Jackson, Professor Cross, Professor G. N. Lewis, Professor Noyes, Professor Allen, Professor Sherrill, Professor Hofman, Professor Wickenden and Professor Shimer.

Dr. R. A. Daly is undertaking the work of drawing the geologic section of South Central British Columbia along the line of the Canadian Pacific for the Canadian government with Mr. N. L. Bowen, '10.

Professor C. W. Doten and three other members of the Massachusetts Commission of Industrial Accidents attended a conference of the Workingmen's Compensation Commission of several states, in Chicago last month. The meeting was held in co-operation with the New York Commission which is investigating the same subject. Professor Doten is chief investigator for the Massachusetts commission.

Professor William T. Sedgwick was present at an all-day session of the Congress of the New York Commission on Milk Standards called by the New York Milk Committee, October 5. The commission formally adopted four grades of milk, certified, inspected, pasteurized and cooking. Only the first three are to be used for drinking.

TECH MEN IN THE PUBLIC EYE

CLARENCE W. GOLDSMITH, '96, has been engaged by the city of Boston as engineering expert to install the new high water pressure system for fire-fighting purposes. The city is authorized to spend for this purpose, at least $150,000 annually, but not more than a million dollars in six years.

FRANK E. HERMANNS, '99, has been made the head of the structural engineering department at the Stevens Institute of Technology, Hoboken, N. J. Professor Hermanns has had a wide experience in this line of work, not only in this country but abroad. In 1907 he went to Tientsin, China, as professor of railroad and structural engineering in the Peiyang University. He was afterwards transferred to the government railroads and did a considerable part of the engineering work on the Tientsin-Pukow line.

JOSEPH DANIELS, '05, formerly assistant professor of mining engineering at the Lehigh University, South Bethlehem, Pa., has recently been made an associate professor.

ALLEN S. CROCKER, '97, formerly head of the mechanic arts course of the Mechanics' Institute of Rochester, N. Y., has recently been made superintendent of the department of industrial arts.

JOHN D. J. MOORE, '95, of New York City, has been nominated by Governor Dix to be one of the three members of the New York State Conservation Commission at a salary of $10,000 a year. Mr. Moore is a consulting engineer and has been prominent in connection with the proceedings for revising the building code. He was a member of the last commission appointed by the building committee of the New York City board of aldermen, and at the present time is the committee's principal adviser. He is also an expert examiner for the Municipal Civil Service Commission.

HORACE L. BRAND, '91, has prominently come to the front during the past ten years as a newspaper publisher in Illinois. He has recently become the sole owner of the Illinois Publishing Com-

pany, publishers of the *Illinois Staats-Zeitung*, the *Chicagoer Freie Presse*, the *Westen und Daheim*, the *Chicagoer Frauen Zeitung*, and the *Abend Presse*. In 1905 Mr. Brand purchased a quarter interest in the Illinois Publishing Company, and a few years later became a half owner.

TRACY LYON, '85, has been placed in charge of the production of all the constituent companies of the General Motors Company with headquarters in Detroit. Mr. Lyon goes to the General Motors Company from the Westinghouse Electric and Manufacturing Company, Pittsburgh, where he has had direct charge of the manufacturing operations of that industry for nearly five years. Soon after being graduated from the Institute Mr. Lyon became connected with the engineering corps of the Chicago Great Western Railway, rising through the position of superintendent of motor power and general superintendent, to that of assistant general manager of the system.

PAUL HANSEN, '03, state sanitary engineer of Kentucky, has been appointed associate in sanitary engineering at the University of Illinois and engineer to the Illinois State Water Survey. Prof. Edward Bartow is director of this survey, which has an appropriation of $20,000 for making a study of the water supplies of the state. After Mr. Hansen was graduated from the Massachusetts Institute of Technology in 1903, he entered sanitary work with the Massachusetts Board of Health, and was later connected with the design of the Columbus, Ohio, filter plant. He was for some time assistant engineer with the Ohio State Board of Health and acting chief engineer.

ALEXANDER RICE MCKIM, '86, consulting engineer, New York, has been retained by the New York State Conservation Commission to conduct an inquiry into the condition of dams and reservoirs in the state, for the purpose of taking such precautions as necessary to eliminate danger of failure. It is stated by the commission that the conservation law gives sufficient power to compel the owners of any dangerous dams to make them safe. Mr. McKim was formerly consulting engineer for the New York City Department of Docks. After being graduated from the Institute he took post-graduate courses at Columbia University and Technische Hochschule, Berlin.

HARDY CROSS, '08, has been made assistant professor of civil engineering at Brown University. Mr. Cross was formerly connected with the Missouri Pacific Railway, with headquarters at St. Louis, Missouri.

WILLIAM Z. RIPLEY, '90, formerly professor of economics at Harvard University, has recently been made Nathaniel Ropes professor of political economy. After leaving the Institute Professor Ripley was graduated from Columbia in 1892, and received a Doctor's degree from the same institution in 1893. He was professor of sociology and economics at the Institute from 1896 to 1902, and lecturer on physical geography and anthropology and on social geography at Columbia University from 1893 to 1901, when he became a professor of political economy at Harvard. He was the Huxley memorial lecturer at the Royal Anthropological Institute, London, in 1908.

WILLIAM R. COPELAND, '96, has been made chemist to the Metropolitan Sewerage Commission in New York City where he will have charge of investigations which are being made by the commission to throw light on the capacity of New York Harbor to assimilate sewage without offense. From 1893–7 he was in general charge of the sewage testing station work at Lawrence, Mass.; during the next two years, he was in charge of the experimental water-filtration plant at Pittsburgh; from 1901–4 he was in charge of the biological work at the Spring Garden Testing Station of the Bureau of Water in Philadelphia; in the following year he was bacteriologist at the sewage testing station at Columbus; from 1905–8 he was assistant engineer in the Bureau of Filtration in Pittsburgh; since 1908 he has been engaged as chemist in charge of the water purification plant at Columbus, Ohio.

HARVEY S. CHASE, '83, has been appointed one of the five commissioners on the President's Commission of Economy and Efficiency in the Federal service with headquarters at the White House, Washington, D. C. The general intent of the commission is to improve the methods of transacting public business of the government. The other members of the commission are Frederick K. Cleveland, chairman; William F. Willoughby, assistant director of the census; Walter W. Warwick, auditor of the Panama Canal and of the government of the Canal Zone; Frank J. Goodnow,

professor of administrative law at Columbia University, and Merritt O. Chance, auditor for the post-office department.

FRANCIS C. LINCOLN, '00, formerly professor of geology at the Montana School of Mines, has been appointed associate in mining engineering at the University of Illinois.

CYRUS C. BABB, '90, has been appointed chief engineer of the State Water Storage Commission of Maine, which office was created by a recent act of the legislature consolidating the State Survey Commission with the State Water Storage Commission. Under the act, the coöperative topographic work will be continued with the United States Geological Survey and data relating to water resources will be collected, this work to be under the direction of the chief engineer as executive officer of the commission. Mr. Babb has been serving as district engineer of the Geological Survey in charge of the coöperative work in Maine. He has been connected with the Geological Survey and the Reclamation Service since his graduation from the Institute.

WILLIAM H. PICKERING, '79. In a recent address by Prof. H. H. Turner, president of the mathematical and physical section of the British Association for the Advancement of Science, he says: "Think for a moment of the very considerable additions to our knowledge which have accrued from the discovery by Professor W. H. Pickering of an eighth satellite to Saturn. The discovery led directly to the recognition of the retrograde motion; and to explain this we were led to revise completely our views of the past history of the solar system. Incidentally it stimulated the search for other new satellites, resulting in the discovery of a curious pair to Jupiter and next of the extraordinary eighth satellite; while it was the investigation of the orbit of this curiosity which suggested an eminently successful method of work on cometary orbits. If we judge scientific work by its results we must take into account all this subsequent history in our appreciation of Professor Pickering's achievement."

FRANK P. MCKIBBEN, '94, head of the department of civil engineering at Lehigh University, has been appointed consulting engineer by the state committee of Pennsylvania which is inves tigating the causes of the disaster at the Austin dam.

DEPARTMENT NEWS OF INTEREST

Investigation of Adaptability of Electric Vehicles for Trucking Purposes—New Books by Professors Spofford and Pender—Refrigerating Apparatus for Low Temperature Study—Mining Department News

Department of Electrical Engineering.—Prof. Harrison W. Smith, of the staff of the electrical engineering department, is on leave of absence to travel amongst the islands of the Pacific Ocean. Mr. W. S. Gorton of Johns Hopkins University has been appointed to take up Professor Smith's work during the year. Mr. Gorton was graduated as a Bachelor of Arts from Johns Hopkins University and then spent three years there in the graduate study of physics and applied electricity. He has also spent a brief period at the Schenectady works of the General Electric Company. He was recommended by the leaders in physics and applied electricity at Johns Hopkins University as one of the ablest men that have studied these subjects at that university.

In other respects the department staff remains much the same as last year. Mr. C. W. Green has been given additional responsibilities as instructor in the electrical engineering laboratory. Mr. F. G. Perry has been promoted to the post of instructor in that laboratory. Mr. Edgar P. Slack of the class of 1908 has returned as an assistant in the standardizing laboratory after spending a year and a half in the research work of the Carnegie Nutrition Laboratory. Mr. J. P. King, University of Maine, 1911, and Mr. David Terwilliger, Iowa State University, 1911, have also been appointed assistants in the standardizing laboratory. Mr. V. S. Foster, University of Kansas, 1910, and Mr. N. S. Marston, Technology, 1911, have been appointed assistants in the electrical engineering laboratory. Mr. H. F. Thomson, Washington University, 1910, who was assistant in the electrical engineering laboratory last year, has been appointed research associate.

The summer vacation was a busy one for the staff of the depart-

ment. Professor Jackson spent a good part of the summer in England and in the western part of this country on account of professional engagements. Professor Pender spent most of the summer revising his text-book on the *Principles of Electrical Engineering* in preparation for the new edition which has been published this fall, and in advancing the work on his *Electrical Engineers' Pocketbook* which is now in course of completion. Professors Laws and Lawrence spent a holiday in the Rocky Mountains. Professor Wickenden spent a holiday on a walking trip in the middle of England. Mr. Green spent most of the summer in the Lynn works of the General Electric Company.

The department has under way an important investigation of the adaptability of electric vehicles for trucking purposes, more especially with reference to the conditions in Boston and its vicinity. Mr. H. F. Thomson who has been appointed research associate, is carrying on this work under the immediate direction of Professors Pender and Jackson. The appropriation for the work was made to the Institute by the Edison Electric Illuminating Company of Boston, and the research is expected to extend over a period of not less than one year and to result in a report on the relative merits of electric vehicles, other mechanical vehicles, and horse vehicles for city and suburban delivery, for trucking and the other purposes for which vehicles are used in the city and its suburbs.

There are now three accepted candidates who are studying for the degree of doctor of engineering under the direction of the department, and six accepted candidates who are studying for the degree of master of science under the direction of the department. Each of these men is engaged in research work on some matter of importance. The electrical engineering undergraduate classes are also somewhat larger than the corresponding classes of last year at this time.

Two officers of the Coast Artillery Corps of the United States Army and one officer of the United States Navy have been detailed by their respective departments of the United States Government to study electrical engineering at the Institute of Technology, and they are now resident at the Institute.

Department of Civil Engineering.—The plans for the civil engineering camp are well under way, the construction of the main

building having already been commenced. It is expected that the camp will be ready for students during the early portion of the summer of 1912, and will open officially in August of that year.

Professors Allen and Spofford spent the entire summer in Europe, the latter visiting technical schools at Munich, Carlsruhe, Stuttgart, Zurich, Darmstadt, Dresden, Berlin and Hanover, giving special attention to the civil engineering departments of those institutions.

Changes in the teaching staff of the department have taken place only amongst assistants. Messrs. Clifford, Lovewell, Rew, Brownell, Clark, Horne and Wentworth resigned in June to engage in practice. Owing to the changes in the curriculum brought about by the prospective establishment of the summer camp in surveying, it has been found possible to reduce the number of assistants in the department; in consequence, two less assistants were appointed to fill the places of those who retired. The five new men appointed are Messrs. H. P. Ireland, H. L. Manley, I. F. Morrison, T. B. Parker and E. C. Vose.

Professor Spofford's book upon the *Theory of Structures* is now ready for general circulation. This book is based upon a series of mimeographed notes which have been in use for several years. Last spring a preliminary edition of the book was issued for use by students only, and this fall a revised copy with additional chapters is brought out. The publishers are The McGraw-Hill Book Company, New York.

The summer school of surveying was held this year at East Machias, Me., near the site selected for the permanent camp. The school was under the direction of Professor Robbins who was assisted by Professors Breed, Hosmer and Russell, and Messrs. Manley and Parker of last year's graduating class. The school was attended by twenty-two students, and a portion of the work consisted of the topographical survey of the site of the new camp.

In order to accommodate with drawing tables the unusually large number of fourth-year and graduate students taking work in the department this year, it has been found necessary to utilize for this purpose the space formerly occupied by Professor Russell's office and to construct a new office in the corner of room 41, Engineering A.

DEPARTMENT OF PHYSICS.—The third year class in heat for several years past has been so large that the overcrowding of No. 22, the largest available lecture room, has been such as to incommode every one, so that it has become necessary to divide the class into two lecture sections, and to repeat the lectures, which Professor Norton is now doing. No. 23, which is now used for these lectures, has received such additional fitting up as was necessary for the purpose. Also a new and powerful projecting lantern with a Thompson automatic regulator has been provided in order to meet the necessity for increased facilities in this direction. Thus far no attempt has been made to differentiate one course from the other, the two being alike in subject matter and treatment.

Besides much miscellaneous minor apparatus, a number of important pieces have been acquired during the past few months, of which the following are particularly worthy of notice.

For the laboratory of general physics there has been provided a new Bausch and Lomb high-grade microscope of modern pattern. This has been necessary in order to secure to a larger number of students of all courses instruction in the use of the miscroscope for exact measurements and a fuller understanding of its fundamental principles. Several of the miscroscopes of the department, excellent in their day, had become absolutely worn out from long usage by multitudes of students, besides being of patterns which in recent years have been superseded.

For the more particular use of the students of course VIII a large Schmidt & Haensch chemical spectroscope with complete attachments for photographing spectra has just been received from Germany. This will make possible the photographic study of prismatic spectra of small dispersion introductory to experiments with the grating spectroscope which constitutes a part of the required work in the optical laboratory. This laboratory has also recently acquired an Echelon of twenty plates from Petitdidier for use with the Littrow spectroscope, which will shortly be used by the senior students in physics for studying the Zeeman effect.

For immediate purposes of instruction or research in the electrical laboratory there have been purchased a Kelvin and White electrostatic voltmeter, a volt-box extending the range of the present potentiometer to 1500 volts, an Edelmann string galvanometer, a Weston standard indicating wattmeter, and a Hartmann and Braun hot-wire ammeter. It is hoped that the labora-

tory will soon be equipped with a wave-meter for measuring the length of electric waves in connection with high frequency currents and wireless telegraphy, a branch of physics which the department intends to develop more fully. To Dr. Francis H. Williams of the Corporation, we owe the gift of a powerful Ritchie induction coil.

The most important recent addition to the equipment of the electrochemical laboratory is a new vacuum electric furnace purchased from the General Electric Company. This type of furnace is of special use in investigations on high temperature equilibrium, such as have been in progress in the laboratory for some time past. It will be used largely in connection with thesis work and research. A number of new alternating current measuring instruments have also been acquired in connection with the 75 k. w. transformer installed last year.

During the past summer there has been developed in the laboratory of heat measurements much entirely novel apparatus for the study of insulating materials at low temperatures. The problems of refrigeration include one of great importance which is purely a matter of physical measurement, that is the resistance to the flow of heat offered by insulating substances. To study this problem under the actual conditions of use there has been installed a two-ton ice machine, the gift of a friend of the Institute, and a small low temperature room, very carefully insulated and so equipped with refrigerating coils that it may be maintained continuously at temperatures considerably below zero. In this room it will be possible for students to test the insulating values of the numerous materials, cork, wood, coke, sawdust, and so on, which are used for the construction of cold storage warehouses, refrigerators, etc.

There have been loaned to the laboratory recently two most interesting refrigerating machines which are quite unique and little known in this country. They are of the Audiffren enclosed-type machine in which the refrigerating substance is sulphur dioxide instead of the more common ammonia. An interesting story is told as to how this machine was invented some years ago by a French Abbé teaching physics in a somewhat remote school in France. As a result of the changed conditions of the religious schools in France the mind of the good priest became turned to more worldly affairs and he sought to develop his invention and

put it into commercial shape. The machine has been brought to its present satisfactory condition with the aid of a well-known manufacturer of engines and turbines in Paris. It looks like a large dumb-bell which as it is turned over becomes heated at one end and cooled at the other. It is understood that these machines are to be manufactured upon a very large scale and since they are self-contained and need no attendance except to furnish water and carry away the ice, it seems that they would mark a new era in our methods of cooling ice boxes, refrigerators, etc. One little machine no larger than an ordinary trunk uses about half a horse-power and makes three hundred pounds of ice a day. It is interesting in view of the recent explosion on board a French warship to note that the particular purpose of sending these machines to the Institute is to determine their adaptability for the cooling of the magazines of such vessels, it being commonly understood that powder used in the navies is more likely to be dangerous if it is kept in a warm magazine than in one that is artificially cooled.

An elaborate series of measurements of the efficiency of asbestos brake bands has been made in the laboratory during the spring and summer. The use of fibers of asbestos instead of those of wool or vegetable fiber has made it possible to operate braking machines at much higher temperatures, and a number of interesting questions as to the limits of power supply and working temperature of such fibers have been studied.

There has been added to the physical library the new edition of the Encyclopædia Britannica, in heavy paper.

Department of Mining Engineering.—Professor Richards has been absent from the Institute during the greater part of the summer. He spent about a month in the Lake Superior copper district studying the milling methods and looking after the installation of his classifying and jigging apparatus. Later he stayed a month in Denver acting as expert in an important law case.

Professor Hofman left on his European trip the first of June and returned the middle of August. He was able to visit a number of metallurgical plants abroad and returns to us full of new ideas. He also took advantage of this opportunity to visit the two leading technical schools of Germany at Aachen and at Berlin studying especially their research departments.

Professors Locke and Bugbee have been around Boston nearly all summer.

B. S. Wohlgemuth has left his position as assistant to go into practical work with the National Tube Company at Wheeling, W. Va., and his place is being filled by Mr. M. A. Grossmann of the class of 1911. There are no other changes in the instructing staff.

George A. Barnaby who has been private assistant to Professor Richards for some years is now located in Knoxville, Tenn., acting as assistant fuel inspector on the Southern Railroad.

Ralph O. Reed also private assistant to Professor Richards last winter is now in Mexico.

G. E. Goodspeed, Jr., who has been Professor Richard's private assistant for the past six months, has now joined the regular instructing staff as an assistant in the geological department.

John L. McAllen on October 1 entered upon his work as private assistant to Professor Richards. He is of the class of 1911 and has spent the summer in the West.

Changes in the laboratory have been few owing chiefly to the fact that we are so crowded that it is impossible to put in any new apparatus. The usual summer cleaning and renovating has been done. The Ball-Norton magnet has been supplied with a necessary rheostat. A motor is in process of installation for the metallographical work.

A large number of former students of the mining department have appeared during the summer,—among them are the following: H. O. Cummins, P. E. Fernald, J. H. Polhemus, H. G. Woodward, M. W. Hayward, T. F. Lennan, R. W. Lodge, F. A. Hurley, A. F. Bennett, P. C. Hopkins, E. A. Hersam, A. O. Christensen, D. Copeland, E. E. Harrington, H. B. Litchman, A. L. Hamilton, C. G. Ewing, Roy Allen, B. E. McKechnie, C. Y. Wen, T. K. Tse, F. W. Snow, Guy Ruggles, T. F. Geraghty, Warren Hastings, H. C. Plummer, F. C. Lincoln, Jos. Daniels, E. A. Holbrook, E. G. Goodwin, A. W. Wells, D. B. Myers.

The department has four students in graduate work: Dr. Walter Fraenkel, Boyd Dudley, Jr., E. M. Marshall, and W. Wanjukow.

Dr. Fraenkel received his degree at the University of Heidelberg where he afterward served as assistant in inorganic chemistry. He also has been assistant at Munich, Zurich, and

Berlin. He is with us to study our courses and methods of instruction and to get an idea of practical work on this side of the water. He wishes especially to study pyro-chemistry and when his studies are completed he plans to teach again in his home country. He is not a candidate for a degree with us.

Mr. Dudley received his master's degree at the Missouri School of Mines at Rolla, Mo., and afterward served three years as instructor in metallurgy and ore dressing under Professor Copeland, M. I. T. '03. He plans to take a master's degree with us and later a doctor's degree, making a special study of metallurgical subjects.

Mr. Marshall is a recent graduate of the Colorado School of Mines with the degree of M. E. He is a candidate for our master's degree taking advanced work in mining, metallurgy and geology.

W. Wanjukow is a graduate of the Imperial Technological Institute, Tomsk, Siberia. He has been doing research work in the metallurgical department of the Polytechnic Institute, Aachen, Germany. He comes to the Institute to study our methods of teaching and to carry on research upon some metallurgical problems.

We also have several men who have come to us this year from other colleges and who are candidates for the regular S. B. degree in mining engineering and metallurgy. Among them are Mr. Waite from Harvard; Mr. Dew from Washington and Lee; Mr. Butts from Princeton; and Mr. Beckman from Yale.

The men who were graduated in June from the mining department all succeeded in obtaining satisfactory positions within a very short time after their graduation in spite of the acknowledged quiet state of general business. We were also able to secure summer positions for such undergraduates as desired. Four men went to the Cœur d'Alene district of Idaho, two men were at Bingham, Utah, two men at Eustis, Que., two men in the coal fields of West Virginia, two men at Butte, Mont. Other men probably succeeded in securing practical work on their own account of which the department has no record.

MISCELLANEOUS CLIPPINGS

The selection of the Cambridge site for the Institute of Technology is a wise and welcome solution of the puzzling problem which has been before it for months and years. While this selection has been generally anticipated as the best possible, yet the friends of other sections have not ceased to urge their preferences. It is good news that the Tech will remain a Boston institution to the extent of retaining its Boylston Street buildings for administrative purposes. The other structures on Trinity Place and Garrison Street will be abandoned and sold. The manifold advantages of the Cambridge site, the particularly beautiful and scenic character of the surroundings, and the fine outlook that the buildings will have cannot fail to be a substantial asset to the institution. With the completion of the new subway to Cambridge, and the readjustment of surface lines which this will mean, Technology will be by no means remote from Boston and will have all the advantages of both isolation and propinquity. It has been a long and weary struggle under which the Tech trustees have labored in reaching this decision. Now, however, their struggle is at an end, with the exception of some petty legal difficulties which the city of Cambridge cannot afford to permit to stand. With these difficulties cleared away this great Massachusetts institution ought to enter into a new lease of long and deserved success and prosperity.—*Boston Transcript.*

In selecting fifty acres of land in Cambridge just across the Harvard Bridge as the site for the permanent home of the Institute of Technology the trustees of that institution appear to have made an admirable choice. The area is sufficiently large for present and future needs and the location will recommend itself because of its accessibility. It is near the city and yet sufficiently retired. Boston is sorry to lose the Institute, but since it will be in Greater Boston it will still be in the family.

A new era stretches out before Technology. She will take her traditions with her across the river, but the plant itself will be modern in every respect and college community life for her will begin for the first time. The Commonwealth this year signified an intention to foster the institution and funds are in hand, or doubtless will be forthcoming for a comprehensive arrangement of buildings. Technology's name is known the world over and now at last she is to have an adequate physical home.

The site is sufficiently removed from Harvard to be distinctive, and yet it is near enough so that if coöperation should be desirable in any degree forces could be joined easily. The beautiful Charles River Basin, with its esplanade, will be appreciated by the Technology community. The selection, in short, if not ideal is almost ideal, and that is sufficient praise.

By the way, shall it not hereafter be known as Harvard-Technology Bridge?—*Boston Globe.*

The long delay (partly occasioned by a question of price attached to various sites under consideration) in choosing a site for the new establishment of the Massachusetts Institute of Technology, comes to an end with selection of the tract of made land on the Cambridge shore of the Charles River Basin, between the two bridges. Only favorable action by the city of Cambridge, regarding the necessary closing of certain streets on the property, remains to be taken into account, and there should be no trouble on that point. It is a relief alike to the friends of the Institute, and to common curiosity, to have the problem settled at last. There will still be differences of opinion as to whether the proposed island site, in the middle of the basin, would not have been more satisfactory and more economical, but discussion of the point is superfluous in the light of the choice made.

The decision assures the basin against defacement by displeasing structures along that shore. We may assume that Technology will provide architecturally pleasing display, coupled with proper utilitarian purposes. This development of the Cambridge shore, also, should strengthen the general tone of other development in the district, and insure the basin as a spot of permanent beauty. The practical advantages for "Tech" in the site chosen, President Maclaurin makes clear. It is convenient to the North station and to Copley Square—the last being important in view of the fact that the Rogers and Walker buildings will still be made use of by the Institute for some time to come.—*Boston Advertiser.*

It may be assumed that Tech will cross the Charles, although the deal is nominally still open. Boston and Cambridge are so nearly one that no local jealously is justified at the University City's additional claim to its title. No closer connection with Harvard, so much discussed at the time of the McKay bequest, is signified by the greater physical nearness; each institution, we are assured, will continue to cultivate its peculiar field alone. The question of tax exemption, even now a burning one in Cambridge on account of Harvard and Radcliffe and the various theological seminaries, will occur to many. But the Institute will relieve rather than aggravate the situation. For the land on which it will locate has awaited development for years and the belief is general that, under present conditions, its contributions to the city's tax coffers would always be meager.

Of interest to all will be the æsthetic result. An imposing architectural group, such as will eventually rise on its Cambridge margin, will immeasurably enhance the basin's attractiveness. It renders all the more advisable the island in the middle of the channel, as recommended by the joint board last year, since sites for boathouses and the like are no longer available on the shore. The metropolitan park commission should also be given the authority and appropriation, denied it last year, to develop the recreation resources of the parkway. Adequate treatment of its possibilities might perchance create a scene justifying Wordsworth's rhapsody on Westminster Bridge: "Earth has not anything to show more fair."—*Boston Herald.*

Professor Francis W. Chandler has been head of the architectural department of the Massachusetts Institute of Technology for twenty-three years and resigns on account of increasing deafness, to the regret not only of his fellows in the Faculty, but of the students, to whom he endeared himself by sympathetic spirit and kindly advice. The Tech architectural department was the first school of the kind in

the country and now is acknowledged to have no superior in the world save the École des Beaux Arts in Paris.

"A department of architecture in a technical school occupies a position of difficulty, inasmuch as it necessarily represents two different points of view, that of the engineer and tha of the artist. In some institutions no attempt is made to represent both sides and the department is frankly allowed to become either purely artistic or purely structural. "Here at the Institute," says Professor Sedgwick, "we are not accustomed to balk at difficulties and we have tried from the outset to recognize and to represent fairly both points of view.

"Professor Chandler has to a remarkable degree been able to combine successfully the varied interest here noted. Sympathizing with the engineer, he has always nevertheless insisted upon a due regard in architecture for pure beauty and artistic feeling, and that he has been able to hold this middle ground without loss of efficiency is perhaps the best tribute that can be paid to his professorial acumen.

"Professor Chandler has throughout steadily supported and strengthened the ideals of scholarly achievement which form so indispensable a part of a great modern scientific school. While fostering individual taste, and especially initiative and originality, he has steadily insisted that the dull routine work of the profession be none the less faithfully accomplished. The architectural department, therefore, stands today entirely on the high level of the other departments in all those peculiarities that characterize typical Technology men.

"Coming to the Institute as Professor Chandler did from active professional life, he has always been able to impart to his associates and to his students the best form of that spirit which is so indispensable a part of professional life, and throughout his career he has stood for uncommon sense and artistic sanity. The head of a department must always be more or less to his associates and students a professional example, and it is not too much to say that those who have long looked up to Professor Chandler as a noble example of what the professional architect should be have never found their confidence or admiration misplaced."

This praise from one within the Faculty of the Institute is echoed and confirmed by no less an architectural authority than R. Clipston Sturgis, who when he learned of the proposed resignation said, "What has made Professor Chandler the leader in the instructing circles of this country is his sound common sense and perfectly good judgment. These are fundamental in architecture, in which the imaginative is needed, it is true, but it should never be a dominant characteristic. Further than this, he has been able to put his own personal impress on every man who has graduated. Those who go to Paris are likely to be dazzled by the brilliancy of the ideals and perhaps neglect the real substance, and Chandler's influence was just what was needed to balance the enthusiasm and make it a factor to most beneficial results. In the opinion of all architects the Institute under Chandler has put forth a product that is the best in the country."—*Boston Transcript.*

In retiring from the chair of architecture at the Massachusetts Institute of Technology, Professor Francis W. Chandler leaves a monumental record of work done not only for that institution but for the advancement of the art in this country.

Since he was placed in charge of that department of the Institute in 1888, he has steadily developed its scope and its purposes, until today it has no rival in the architectural field except the École des Beaux Arts of Paris. In the schools of architecture established in connection with our leading universities and colleges,

Technology men will usually be found at the head as directors. They all carry the impress of Professor Chandler's personal influence and of his clear enthusiasm for art.

It is no exaggeration to say that he holds recognition as the architectural teacher par excellence of the world.—*Boston Post.*

Prof. Gaetano Lanza, head of the department of mechanical engineering at the Massachusetts Institute of Technology, has ambitious plans for the future in the line of the erection of a large apparatus for experiments in currents of air, a work that is urgently needed in the development of the future of the aëroplane. The practicalness of Professor Lanza's plans does not need any supporting argument, it is self-evident, because the advances in methods of construction of aërial machines must depend largely on the additions to knowledge of the effects of air currents upon their planes and frames. Very little is known today about such vital matters as lift and drift of the surface upon which the wind impinges, but these items of lift and drift are exactly what ought to be known to have the constructions other than rule of thumb.

Inasmuch as the Institute has already a mass of observations on the subject, such as few other institutions in the world possess, and since the subject needs development in a larger way, Professor Lanza has had in mind the securing of means of setting up at Technology a plant that shall be adequate to the working out of problems of the wind on a scale comparable with nature.

DIGGING OUT FACTS FOR THE AIRMEN

There are three philosophical ways in which the quality and behavior of wind currents may be determined, by mounting some kind of measuring device on a railway train or an automobile, by placing it on the edge of a rapidly whirling table; or, third, by making a gale of wind by artificial means within the laboratory, or in other words, experimenting on the current of air from a blower. The methods first-named have, of course, been available for the earlier, cruder investigations but it may readily be seen that in the open air there never is a time when distracting breezes are not present; the whirling table if out of doors has the same defect, while in the laboratory it is troubled by induced currents that it has itself started, so that the final and more delicate tests must come from a controlled current which can be given known velocity and direction. There was established, therefore, in the laboratories at Tech some years ago an apparatus consisting of a blower and a square conduit leading the air to an outlet in which various conditions were established and studied. These data are most valuable so far as they go.

This bit of apparatus in the hands of the students has contributed a great deal to the present knowledge of air currents, and in other places widely scattered over the world other institutions, three or four of them in all, have installed similar devices; but today, in the needs of the practical work of aëronatation, Professor Lanza feels that what is now most necessary is the increase to practical velocities and practical surfaces in the experiments. The world is no longer to be served in this matter by foot-square targets in a tube of four feet area with a wind of ten or fifteen miles an hour; what is needed is a gale of sixty miles an hour from the mouth of a tube nine feet square, and this is just what Professor Lanza, the head of a most active depart-

ment of Technology, is trying to realize. And it needs but a small fund comparatively to install the entire outfit. In certain ways the plant will be popularly interesting, for the blower that is capable of delivering such a current is of the largest size used for the ventilation of mines, and at its intake there will be a good deal of excitement. The casual inspector will need to hold on to his hat, for small, loose articles like shawls, or handkerchiefs, or gloves will stray rapidly towards the blower and even the small boy might have difficulty in withdrawing if he should peer into the grating to see where the wind was going to; but these are details easily arranged so as to avoid untoward results. Such a device, the cost of which would hardly have bought a pamphlet at the recent Hoe sale, is pretty necessary to the development of a coming industry that is not as yet sufficiently on its feet to supply itself the funds for the experiments.

HELPING OUT THE INDUSTRIES

The close relations of the Massachusetts Institute of Technology to the problems of business men are not very well understood outside of those business circles that have need of the solutions of their problems. It was voiced with distinctness at the Technology Congress but, generally speaking, it is only occasionally that the request of such firms comes to public notice. The Edison Electric Company realizes that it is time to put on a basis of efficiency the running of the electric automobile, and accordingly it has tendered to President Maclaurin the funds with which such an investigation is to be conducted. The company does not know just what the outcome will be, for this is to be an investigation in the interests of science, but it is sufficiently sure of the ground to feel that a scientific testing of every element in the electric vehicle, the determination of its efficiency as a carrier of packages or a whizzer of the physician to his patient, should be worked out. It recognizes further the admirable facilities possessed by the Institute for just this kind of efficiency work, and despite its own facilities for investigation, it turns to the Institute as its real master in investigation methods.

In exactly the same spirit the Keith company has approached the Institute of Technology for the investigation of the egg question. It agrees to furnish a fund for research, which in the words of the letter of announcement of the proposition "shall be conducted in the most thorough and impartial manner possible." The sole condition attached to this gift is "that the results shall be published as promptly as possible." "For the purpose of such a work," writes the president of the company, "we turn naturally to the Institute of Technology."

But to come once more to the mechanical laboratories, which by the way were formerly called "shops," till Professor Lanza realized that they were just as truly laboratories for the working out of mechanical questions as are the chemical laboratories for the solution of problems in chemistry, and applied the new word "laboratories" to the most recent of these practical study rooms, those on Garrison Street. Tech was a leader in this item of nomenclature and such shops are now called laboratories all over the world. One further point should be understood, that the Institute of Technology differs from some other institutions in the land, in that it does not take work for the mere purpose of doing it. There are some excellent schools that are in the machine manufacturing business and accept contracts to furnish various kinds of constructions, the work being done by the stu-

dents for practice. It is true that the Tech men are excellent mechanics, but this is the means and not the end. They learn to construct in order that they may make for themselves the apparatus for solving the problems before them.

It would be a long story simply to list the points of close contact with mechanical business matters that the students make in the course of a single year; some of them, however, are in the forefront of recent advance or in relations in which there is an international interest. A few of these may be noted briefly, no one of which is more technical or more closely watched than the experiments with gear wheels. Toothed wheels have been known since almost prehistoric times, yet there are some questions about them that have never been satisfactorily answered. The use of them is increasing and in important ways; for example, in the differential speeds of the automobile, and as the field of the work enlarges new problems come into view.

When, therefore, at a meeting of manufacturers, the difficulties of the situation were presented, Professor Lanza suggested that it was a problem which could be best worked out in the mechanical laboratory of an institution like Tech, and, accordingly, sets of wheels have been furnished to the students by different manufacturers, each one of which has his own pet pitch, and the students during the past few months have been patiently comparing the behavior of one kind of tooth with that of another. Measuring the power delivered to the driving shaft and the amount of power transmitted by the receiving shaft, the relative efficiency of the different constructions is determined, the weak points in one system or in one application are shown, and it is expected in the end to furnish a formula for tooth-drafting that will be better than any other in the world. This research has attracted the attention of the mechanical engineering societies; the American society has openly approved of the work, while the British association has deferred the beginning of some of its important standardizing matters till the results of the investigations at Tech may be made known, intending to use these for a stepping-stone in the attack of other problems. Yet for the boys such an investigation is no poem. One who engages in scientific research learns very quickly that it is a long series of measurements, one almost like another, confining, demanding at every moment close attention and, as a whole, laborious, painstaking drudgery. But this is the kind of work that the successful engineer must undertake, and in this, more even than in other branches of the pursuit of knowledge, there is no royal road, albeit it is no small portion of the work of the engineer to make the roads smooth and easy for others.

HUNTING FOR A SATISFACTORY TELEGRAPH POLE

In the same building with the busy cogwheel investigators there is another group of students testing concrete telegraph poles. With the increasing scarcity of wood and the fact that the life of a pole imbedded in the earth and subject to such great strains, is comparatively short, there is every effort to find some substitute. Concrete offers itself and the question at once is, how is it in point of strength? To answer this question these students have been at work for some weeks with eight-foot lengths of different constructions, seeing just what they will do under the strain that it is probable they must endure in practice. Here are hollow posts, posts with reënforcement of different patterns and even solid poles. When the work is completed, there will be for the business man the story of what there may be in economy,

adaptability or serviceability in the concrete post, and it will be free to him who cares to look it up.

The room in which these experiments are conducted is worthy of a good deal of attention, for it is probably the most important destructive laboratory in the country. It is only about a quarter of a century ago when the Emory testing machine at the Watertown Arsenal was almost a wonder of the world. It could crack an egg or rend an iron beam and register the force required for either operation. It was so costly that only a government could afford to own it and when built it was the only one of its size in the world. Today the Institute owns an Emory machine of three hundred thousand pounds crushing strength, not far from half the power of the great government machine, and competent to test anything in the usual run of mechanical matters. This is, however, but one of a dozen machines that twist or crush or pull, this one with one hundred thousand pounds strength in its jaws and that one of thirty thousand pounds, so that whatever the problem, the students are amply fitted with the fundamental machinery.

The problem of concrete is one of the living ones of today, because it has, so to speak, been recently discovered. It is, of course, an adaptation of the old method of "grouting," but in a new age, with an improvement or two like the reënforcing bars, its possibilities seem boundless. But the engineer must stop and consider. When the Boston & Maine Railway inquired of the authorities that were convenient as to what the conduct of a concrete house would be on the summit of Mount Washington, it was not able to get any very definite answer. Then, again, there is always the question of cost. It is not every one who has a piece of work like the great constructions of the Panama Canal, where cost is absolutely secondary to quality. Men must live by their investments and must figure the cost and its relations to the returns. It is the lowest cost consistent with satisfactory strength that is sought. The determination of such things as this the Technology students in Professor Lanza's department have entered into with definite results already, and it is in splendid trim for the carrying forward of any special line of development. For example, in the physical laboratory there are investigations in progress to determine the action of concrete under high temperatures. Here is a material entering with phenomenal rapidity into construction work and yet practically nothing is known of its fire-resisting ability. What is known is all assumed from some circumstance, perhaps of an accidental fire, but the students of Technology are at work quietly piling up the facts that shall give it a definite rating and a place.

In a nook in the basement of the mechanical laboratory in Engineering Building A, is a sixty-five horse-power Knox automobile engine given to the laboratory by the manufacturers so that its efficiency may be tested under every possible laboratory condition, and to it Professor Riley has attached a very efficient form of water brake whereby the whole power of the engine may be taken up, if necessary, and its strength measured in this way.

ALWAYS AFTER EFFICIENCY

In every corner of this busy place there is something doing, and even on the roof, for there is a testing place for nozzles. It is not every town that is so favorably situated as Boston, where the water wasted by being exhausted into the air from steam plants may need five or six ciphers following its initial digit to express the

dollars' worth a year. Less fortunate places, where the conservation of water is a necessity, must use some form of condenser and to return the water as soon as possible to the boiler, some kind of cooling device, so that the form of nozzles as adapted to such special work is important. This has been the research of one of the students this term and he has been fortunate in devising a form of his own that is more efficient than any of its predecessors.

And besides the laboratory there is the great outside world. Technology students spend their summers on the tender of the locomotive, weighing every pound of coal, noting its effect on steam production and determining the theoretical improvements in what must ever be a most wasteful means of producing power, or on the running-board testing the cylinders. Meanwhile, Professor Peabody and his assistants of the department of naval architecture and students are performing a like service for the steamers, by a very neat recorder devised by Professor Everett, making a continuous record of every important efficiency factor in permanent form so that it may be studied later in the laboratory. This machine, tested for the first time the present school year, is now in almost constant demand by local steamship builders, for it tells them better than any of their own devices the truth about the efficiency of their productions.

Not infrequently the students of the department test the conditions of a building, as at the new Art Museum where the boilers and heating system were investigated for efficiency, and also the humidifiers, while the ventilating system of the Old Colony Trust Company's new building was also studied. At the Arena there was an investigation of the efficiency of the freezing plant, while at the Saylesville bleacheries important tests were made on the producer gas engines, which here develop several thousand horse-power. On the Edison chimneys at South Boston a series of experiments, not yet completed, is in the practically unworked field of the value of high chimneys. The trend of previous work with the chimneys at the Institute itself was towards the belief that there is no advantage in great height so far as draft is concerned, although of course some chimneys disperse noxious gases, which if discharged into the air must be at such a height as to eliminate danger to animal or vegetable life.

The short exposition of what a single department of the Massachusetts Institute of Technology is doing in the way of timely research of importance to commercial interests would in its details make an exceedingly interesting story, closely related to the manufacturing supremacy of Massachusetts, and it is also to be remembered that it is but one of a dozen active departments, each working within its own field. The physics students have a very interesting sample refrigerator which they can stuff with different kinds of packing and cool by a number of different methods; the electricians are looking into problems that relate to everyday life and light; the naval people have their sample boat, the *Froude*, to which they affix all sorts of propellers at various angles and under different conditions, so that they can tell which is to be the winning form, and the winning form is of enormous importance in the present hustle of torpedo boats, destroyers and destroyer chasers. And as to the chemical laboratories, there is a subject that at its one extremity is dealing with the ultimate nature of matter, the very foundations of purely theoretical science, and at the other is in touch with almost every business interest of our modern civilization, an important story all by itself.—John Ritchie, Jr., in *Boston Transcript.*

BOOK REVIEWS

CHARTS OF THE ATMOSPHERE. By Abbott Lawrence Rotch, '84, and Andrew H. Palmer. New York, John Wiley & Sons. 1911. Oblong 4to, cloth.

More than half a century ago, Lieutenant Maury, of the United States Navy, rendered an invaluable service to mariners by his extended observations of ocean currents. The work which he began is still being carried on, with the result that from year to year new knowledge is gained concerning those aids and hindrances to navigation.

We now have in aërial research something analogous to the marine work of Maury.

In 1885, Abbott Lawrence Rotch—now professor of meteorology in Harvard University—founded the Blue Hill Meteorological Observatory. This is situated on the summit of a hill a few miles south of Boston and is 625 feet above sea level. The summit is less than eight miles from the coast line and is the highest elevation so situated, between Maine and Florida. The observatory is a prominent feature in the landscape and may be seen eastward from Providence-Boston trains about fifteen minutes before reaching the latter city.

From the time of the foundation to the present, meteorological phenomena have there been continuously observed and recorded. The work still goes on.

From the beginning Professor Rotch realized that the elusive problems which ever confront meteorologists can only be solved by observations of the higher air.

In the early nineties the work of measuring the heights and velocities of clouds was begun. In 1894 the first systematic use of kites for carrying self-recording instruments to great heights was inaugurated at Blue Hill and in more recent years, under the auspices of the observatory, exploring balloons carrying instruments only have added much to the knowledge of the conditions which prevail above us.

In the earlier years of research at Blue Hill, the achievement of dynamic flight seemed to be in the dim and distant future, yet it was safe to assume that it would come in time and that when it came the aërial ocean must be charted.

We find a noble beginning of this new science in a recently published work, "Charts of the Atmosphere," written by Professor Rotch in collaboration with Mr. Andrew H. Palmer, one of his assistants at the observatory.

The author writes in the introduction: "The charts, which are believed to be the first of the kind adapted to the use of airmen, relate only to portions of the United States and the Atlantic Ocean, but they will doubtless be perfected by aërologists and extended in the near future to other parts of the globe."

Man ever seeks new lines of research and new regions to explore. So fascinating is the quest that it seems certain that Professor Rotch's expectations will be realized and that this work will be carried on by others in all parts of the world.

Even a brief study of this book of charts makes it clear that the work is the result of long-continued thought and of great labor. The various schemes of charting are brilliantly ingenious and original. It should be understood that these charts deal

with the average conditions and not the actual ones which have to be faced on any given day.

The charts enable the aviator or aëronaut to foresee approximately the wind and temperature conditions that he will encounter aloft at any season of the year. With their aid the aviator may learn to what altitude he may safely ascend in regard both to his motor and to his bodily comfort, what winds are the prevailing ones for cross-country flight and at what levels they may be found.

The aëronaut may plan his journey from the wind charts, and in connection with a daily weather map go at will on either a long or a short excursion. Indeed, near the coast, it is shown that a free balloon may travel a considerable distance inland on the sea-breezes and return with the opposite upper current to the coast within a few hours. For long balloon voyages, either trans-continental or trans-Atlantic, the charts are invaluable, showing, as they do, the level which the balloon should seek in order to obtain the benefit of the most favorable winds in respect to both direction and velocity, while other tables indicate the effects upon the passengers and upon the gas and motors.

The author does not mean to intimate that it is his belief that such balloon voyages will ever be of utilitarian value, but it does seem to him probable that the voyages would bring valuable data to the science of meteorology.

The reviewer would bespeak for Rotch and Palmer's method the most careful consideration of those engaged in this research work. There is a danger ahead. It is that in the strong and justifiable desire to be original the workers may follow diverse methods, making comparison and coördination of results extremely difficult, if not impossible, and thus labor may be wasted.

This is the day of "team-work," and only by such work can the aërial ocean be charted.—JAMES MEANS in *Science*.

CONSERVATION BY SANITATION. Dr. Ellen H. Richards, '73. New York, John Wiley & Sons. 1911. 8vo. Pp. 305. Cloth, $2.50. Illustrated.

Peculiar interest attaches itself to this work, as it is almost the last publication of one who has contributed very largely to the literature of modern sanitation. Mrs. Richards' books on water analysis are well known to a wide circle of readers. Her other books on the cost of cleanness, the cost of living, the cost of food, the cost of shelter, the chemistry of cooking and cleaning, home sanitation, etc., are equally well known to an entirely different circle of readers. To say that these books have had an important influence in molding modern sanitary thought, especially among women, is to put the truth but mildly.

"Conservation by Sanitation" is a laboratory guide for sanitary engineers in the study of air, water supply and the disposal of waste. It is divided into two parts. Part I, which comprises about three quarters of the work, is of a general character and adapted to a wide field of readers. Its style is discursive, perhaps too much so, but it covers many matters of interest and importance in the realm of sanitary science.

Especial prominence is given to the sanitation of air, which is regarded as "a neglected resource." The advantages of pure air and better ventilation in houses and factories is set forth. One chapter is devoted to the work of the sanitary inspector and the analysis of air.

Several chapters are devoted to the history of public water supplies, the develop-

ment of the sanitary idea as indicated by the municipalization of water works, economic and sanitary efficiency of water works, protection of water supplies as a conservation of natural resources, the regeneration of a spoiled water-shed, the interdependence of town and country, and efficiency of filtration. On many of these subjects the information given is disjointed, but is nevertheless instructive. Particular emphasis is placed upon the necessity of collecting water from a clean gathering ground and storing it in clean reservoirs. The uses of the chemical analysis of water are described at length, but one of the rather surprising features of the book is the conspicuous absence of references to bacteria and their importance in water supplies.

Two chapters are devoted to the disposal of wastes, including garbage, sewage and wastes from manufacturing establishments. The effect of dilution is considered at some length, but little space is devoted to works for the purification of sewage.

The first part of the book closes with a chapter on the education and position of the sanitary engineer in the progress of modern sanitation, in which emphasis is placed on the need of efficiency in the enforcement of health laws.

"The mechanical basis of modern life must come to the aid of moral and personal influence. It is not enough to tell men to do the right thing—they must be fenced in from the wrong thing. For this reason the public service engineer is the emerging leader in community welfare."

Part II comprises a series of laboratory exercises and tests on the inspection of ventilation and the analysis of water and sewage. These notes are based on exercises prepared for the fourth-year sanitary engineering students at the Massachusetts Institute of Technology, where Mrs. Richards was for so many years an important member of the Faculty.—G. C. Whipple in *Science*.

The Design of Static Transformers. By H. M. Hobart, '89. New York, D. Van Nostrand Company, 1911. 174 pages, 101 illus. Price, $2.00.

Gisbert Kapp and Prof. J. A. Fleming supplied the profession a dozen years ago with the earliest treatises on the design, efficiency and operation of transformers. Though there appeared within that period a fairly extensive literature on the subject, mainly in the form of articles and papers published in technical journals, the number of works dealing more or less fully with one or other aspect of the subject is but small. In the present volume Mr. Hobart supplies a much-needed manual on the design, construction and regulation of transformers of various types. After a lengthy introduction, in which matters of general interest are touched upon, the author adds a bibliography of useful papers which may be read with understanding and profit by the student after perusing the present short treatise. It is to be regretted that the author saw fit to qualify the apparatus treated by the word "static," which word carries one back to the days of unscientific nomenclature long since revised.—*Electrical World.*

NEWS FROM THE CLASSES

1868.

PROF. ROBERT H. RICHARDS, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

On July 11 the secretary left for Houghton, Mich., where he remained until August 15 working upon concentrating machinery in one of the large mills. He met R. E. Sampson, '07, and they had a good deal of fun together. He went to Denver, August 22, where he acted as expert in some law cases. While at Denver he dined with W. H. Bunce, '84, and Marden Hayward, '96, Crichton, '10, and Damon, '05. The great event was the dinner which was given to him by W. H. Bunce, '84, F. T. Snyder, '91, John Donaldson, '07, Frank E. Shepard, '87, Elmer W. Wiggins, '05, Edward S. Wiard, '99, Sydney S. Emery, '93, and W. S. Trask, Jr., '06. The dinner was given at the University Club at Denver and was a very jolly one. The Tech men present talked over old times as well as future plans for the society, and it is hoped that it will be one of several reunions of the Rocky Mountain Club of Denver during the year.—Prof. Robert H. Richards attended the quarter centennial of the Michigan College of Mines at Hancock, Mich., August 8 to 11, representing the Institute of Technology, although unofficially present. The reception committee was very attentive to the representative of the Institute. The exercises were of an elaborate nature and extremely interesting.

1876.

JOHN R. FREEMAN, *Sec.*, 815 Banigan Building, Providence, R. I.

Seven members of the class of '76 (Copeland, Hodgdon, Wood, Baldwin, Pritchard, Galloupe, and Freeman) were able to leave business and other cares on Saturday, June 10, at the invitation of Charles T. Main, to spend a week end and some days more at his bungalow at Ashland, N. H.—Letters were received from many, telling what each had been up to since last heard from and recounting cheerful yesterdays. No technical examinations were held for showing how much skill had been gained or lost in the experiences of the thirty-five years since graduation, except a few in applied mechanics, in which one and then another demonstrated his fitness at the bucksaw and the pump handle, while

the others stood around as time-keepers and cheered him on.—After all of the stories of the old days and the recounting of what had been going on since, the general verdict was that thirty-five years is not so very long after all, and that we were all of us still young.—The secretary has to record the death of two of the best beloved members of the class:

Charles P. Shillaber

Charles P. Shillaber died at his home at Sherbourn, Mass., on Tuesday, July 11, after a long illness. It will be remembered that frail health in his early years caused him to leave the Institute, so that he did not graduate with the class. After leaving the Institute he spent several years in travel, going to the Pacific Coast, the Sandwich Islands and other interesting localities on the Pacific. Restored to health, he returned to Boston and entered upon a very successful business career, and always found time to attend the reunions of the class when he was in this part of the country, and always brought with him a cheerfulness and optimism which will be a pleasant memory to his friends.

George C. Avery

George C. Avery withdrew from the Institute at the end of the second year to take part in his father's business, the manufacture of agricultural implements, in Louisville, Ky. In course of time he succeeded to the presidency and general management of the Avery Plow Company, one of the best known concerns in that line manufacturing particularly with a view to the Southern agricultural conditions. The secretary of the class has very pleasant memories of Mr. Avery's Kentucky home and has had the pleasure of occasional visits in recent years, whenever Mr. Avery's business called him to this part of the country. Those of us who remember him as one of the most athletic figures among our group of thirty-seven years ago will find it hard to picture him as suffering from the ill health which from time to time cut down his business activities and compelled him to seek rest abroad. Within the past few years he had been busy with a complete rebuilding of the company's works, substantially everything being new and with all details for efficiency studied out along the latest lines. The Kentucky air had bred in him a courtesy and kindliness of manner which had not become impaired by an aggressive business life.

1877.

Richard A. Hale, *Sec.*, Lawrence, Mass.

H. D. Hibbard, '77, Plainfield, N. J., was married August 16, 1911, to Mrs. Sallie Ames Brooks of Plainfield. They have

returned from a trip to California by the way of the Canadian Rockies and will continue to reside in Plainfield.—George W. Kittredge and family have been spending a month in the West, visiting the Yellowstone Park and Canadian Rockies and have now returned east.

W. E. Chamberlin

W. E. Chamberlin, '77, died suddenly at Manchester, Mass., August 6, 1911. He had been an invalid for many years. He was very prominent in the architectural profession and had designed and built many prominent buildings in Cambridge.

1881.

Frank E. Came, *Sec.*, Metcalfe Apartments, Westmount, Quebec, P. Q.
Frank H. Briggs, *Asst. Sec.*, 22 High Street, Boston, Mass.

Frank Darlington has spent the summer as usual at his Hyannisport residence, and had his granddaughter there for part of the summer. He was a constant attendant at the Barnstable fair where Major Briggs held forth in athletics.—Bill Revere is now located at Portsmouth with the Roland M. Baker Leather Company, with whom he has been associated for some years.—Hans Allen has been at Walpole off and on during the summer.

1882.

Walter Bradlee Snow, *Sec.*, 170 Summer Street, Boston, Mass.

Mr. William H. V. Rosing, who has been for some years mechanical engineer for the Missouri Pacific Railway Co., with headquarters at St. Louis, has recently accepted the position of assistant to the vice-president of the St. Louis and San Francisco Railroad Company, with headquarters in the Frisco Building, St. Louis, Mo.

Howard V. Frost.

The secretary has to record the death of Howard V. Frost, which occurred at Chicago, June 27. The funeral services were held at Arlington, Mass.

1884.

Harry W. Tyler, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

Mellen has recently become secretary of "The Beacon"—a newly incorporated department store in Central Square, Cambridge, which is expected by the local press to give a great and

welcome impetus to the mercantile development of Cambridge. "It may be that the coming of a new department store with abundant capital and superior facilities for doing business will bring about a modification of business methods on the part of some of our existing stores. Our merchants have done wonders during the past few years in the way of meeting Boston competition and have offered both service and values that have resulted in a remarkable growth of the mercantile interests of Cambridge. The introduction of a new element of competition in this city must result in still further changes for the better, with corresponding benefit to the purchasing public and to the merchants themselves. Accordingly, we welcome Cambridge's latest business enterprise and assure it of our hearty coöperation in any campaign for the building up of the city."—*Cambridge Chronicle.*—P. L. Fong, formerly in the Bureau of Agriculture, Industry and Commerce, Mukden, is now of the chief engineer department, Imperial Peking-Kalgan Railway, Changsui Extension, at Kalgan, North China. He reports that K. Y. Kwong has been transferred from the Yueh-Han Railway Company to this line as chief engineer.

A recent issue of the *Richmond Virginian* contains the following:—

General T. Coleman duPont, the millionaire president of the Powder Trust, having a few surplus dollars to disburse and casting about for a beneficent direction in which to apply them for the public good, displays unusual originality and a remarkable discrimination in the distribution of them. He passes by the common opportunities of philanthropy; turns a deaf ear to the entreaties of their representatives and blazes a way for himself through an untrodden realm of public benefaction. He is applying $2,000,000 to the construction of a great highway, 100 miles long and 300 feet wide from the northern to the southern limits of Delaware. It will be one of the finest boulevards in the world. Hereafter, as Carnegie is known as the patron of libraries, Rockefeller of education and Morgan of ecclesiastical institutions, so duPont will be known as the patron of good roads. He is constructing a monument for himself out of native soil a hundred miles long. The gift is as valuable as it is unique. Really it would be difficult to conceive of a national benefaction of greater and more enduring value. Thousands of square miles of his state with their inhabitants will be brought under the direct benefits of this novel gift. The development of the whole state will be furthered and the comfort and convenience and prosperity of thousands of people will be directly served by the building of this highway.

1885.

I. W. Litchfield, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

During the summer the secretary ran across Fred E. Bedlow, who has modestly concealed his whereabouts in Dallas, Texas, for a number of years, coming to Boston surreptitiously during the summer for a brief respite from the heat and to keep the recollection of Duxbury clams fresh in his memory. He looks youthful and well and maintains his interest in '85, although he cannot meet with us as he is never here in winter time. He has

one daughter at school in Dallas, and another has been attending Smith College for two years.—A letter from Martin received this fall states that he is now located at 8 Pine Street, Glen Falls, N. Y., having taken a position in the management office of the International Paper Company. He is pleasantly located and likes his new work, although he says it is rather hard to be so far away from Boston.—S. A. Parsons has changed his address from Boston to 106 Agricultural Bank Building, Pittsfield, Mass., and Frank Cutter has moved from Los Angeles to Corning, Cal.—If you want to shake hands with Charlie Allen step into the State Board of Education rooms in the Ford Building, Boston.—Bob Richardson came on to New York in September and had a clandestine meeting with Dick Pierce and Charles Richards. It is understood that this meeting had something to do with the 30th anniversary of the class of '85 to be held at Squam Lake in 1915. It is to be known as the Squam Lake 1915 movement.—Tracy Lyon, who has for a number of years directed the manufacturing of the Westinghouse Electric & Manufacturing Company at Pittsburgh, has taken charge of the manufacturing operations of the General Motors Company of Detroit. Lyon has had unusual experience in the science of management and in handling men, having passed through a very broad railroad experience on the Chicago & Great Western Railroad, where by successive steps he passed from a member of the engineering corps to assistant general manager, through the offices of superintendent of motive power and general superintendent. His experience with the Westinghouse Company was an important supplement to the railroad work and he is particularly well equipped to take charge of such a complicated and diversified industry as that with which he has just become connected.—Every man in the class will be glad to know that Alex. McKim has recently been appointed inspector of docks and dams of the Conservation Commission of New York State. This appointment was made in order to prevent a disaster similar to that which occurred at Austin, Pa. McKim will begin a thorough probe into the condition of the dams and reservoirs throughout the state of New York. He has held the position of engineer, New York City Department of Docks and is, therefore, well equipped for his new work. After leaving the Institute he took post-graduate courses at Columbia University and Technische Hochschule, Berlin. There are over five hundred dams in the state which will have to be inspected as soon as possible and McKim is likely to be a busy man for some months.—Pickernell has moved from Newton to Englewood, N. J., so as to be nearer the center of operations in New York city. For a number of years he has been obliged to travel a great deal, so that his classmates have seen but very little of him.—Morris Wilder spent the summer in Biddeford Pool, Me., but was unable to evade the secretary as he passed through Boston. Morris has two boys,

one at the Choate School in Connecticut preparing for college and a younger one who is attending high school in Florida.—Oakes Ames is just taking a real vacation for once in his life, having spent two months on a trip to the coast partly on business and partly for pleasure.—Morss spent the early part of the summer perspiring over the job of selecting a site for the Institute. Later on he joined his family in Europe and spent a good part of his time flying around in aëroplanes. Every member of the family, except the youngest, went up several times and it is commonly understood that he is thinking seriously of purchasing an aëroplane to take the place of the old Stanley car of unhappy memory, which he has nevertheless fondly cherished in his heart ever since, although it has been supplanted by two Whites, and one or two Pierce Arrows. During the latter part of the summer when any one said "site" to Ev he went right up into the air.—In addition to Homer's many duties he still finds time to lecture twice a week to the architects of the Institute.

1887.

EDWARD G. THOMAS, *Sec.*, Kewanee, Ill.

W. S. Hadaway, Jr., who has specialized for many years on applications of electric heating to industrial purposes will have entire charge of a new factory which the Cutler Hammer Mfg. Co. are building at 144th Street and Southern Boulevard, New York City. The plant will be entirely given up to the manufacture of appliances for utilizing electric heat in manufacturing work.

1888.

WILLIAM G. SNOW, *Sec.*, 24 Milk Street, Boston, Mass.

Charles A. Stone has returned from abroad after more than a year's absence.—Arthur T. Bradlee is recovering from a broken leg, the accident occurring during a game of tennis.—B. R. T. Collins has completed a report on the power and mechanical equipment in the Amoskeag Mills, Manchester, N. H.

1889.

WALTER H. KILHAM, *Sec.*, 9 Park Street, Boston, Mass.

The firm of Mauran, Russell & Crowell has been formed to take over the business of Mauran & Russell, architects. They will have offices in St. Louis, Houston and Dallas. John Lawrence Mauran of '89 is the head of this firm.—The address of President Hobbs of the National Association of Cotton Manufacturers at their meeting of September, 1911, is an authoritative

and convincing document.—Fiske has gotten out a most interesting and instructive booklet entitled "The Cost of a House"; being a comparison between brick, wood, cement and hollow block construction. Besides being of great use to prospective house builders, the book will be of value in advancing the use of incombustible house construction and reducing the too prevalent American fire loss.—Williston now has his work in the new Wentworth Institute at Boston well under way, the initial group of buildings being now complete. The success of the project may be estimated by the fact that before the school opened over 550 applications were received. The aim of the school is to teach trades and to train young men to be foremen and superintendents in building construction and in manufacturing industries.—Bliss has been re-nominated for lieutenant governor of Rhode Island.

1890.

GEORGE L. GILMORE, *Sec.*, Lexington, Mass.

Batchelder Brothers of which J. L. Batchelder, Jr., is the senior member, suffered a heavy fire loss on September 13 when one of their big docks in Boston was destroyed where they had 50,000 tons of coal.—In July Hayden took a two weeks' yachting cruise off Newfoundland and the coast of Labrador.—Francis W. Dunbar's address is 53 West Jackson Boulevard, Chicago.—H. L. Noyes is at Union Street, Niagara Falls.—James B. Seager is with the Seager Engine Works at Lansing, Mich.—George C. Osborn's address is now Marble, Gunnison, Col.—C. G. Noyes's address is 211 Fairmount Avenue, Hyde Park, Mass.—J. B. Baker is at 558 West 158th Street, New York, N. Y.—Rev. George F. Weld has returned to The Rectory, Hingham, Mass.—C. W. Sherman is principal assistant engineer with Metcalf & Eddy whose headquarters are at 14 Beacon Street, Boston, Mass. During August and September Sherman was temporarily in charge of the Chicago office in the Harris Trust Building, devoting his entire attention to work in the West, where the firm is attending particularly to water works, water production, sewerage and sewage disposal works, having general management of such plants and acting as expert advisers to the managers.—The marriage is announced of Frederick W. Swanton and Lillian Frances Boylen on September 14.

1891.

HOWARD C. FORBES, *Sec.*, 88 Broad Street, Boston, Mass.

Morris Knowles has been chosen director of the department of sanitary engineering and public health, in the school of engineering at the University of Pittsburgh. This course will be laid out under

the direction of Knowles to coöperate with the medical school of the university and the departments of health of the city and state. Under the coöperative system in operation at the school of engineering, the students will receive a year's practical work during the course. It is proposed under his direction to develop one of the most advanced courses in sanitation and public health in the country. Knowles, since leaving this city, has had wonderful success in his chosen occupation. Several large cities and towns secured him to construct sanitary departments for them and the United States Steel Company honored him by awarding him an enormous engineering contract which called for the expenditure of over a million dollars. He also was the designer and supervised the construction of the filtering system of Lawrence, Mass.

1893.

FREDERIC HAROLD FAY, *Sec.*, 60 City Hall, Boston, Mass.
FREDERIC H. KEYES, *Asst. Sec.*, 88 Broad Street, Boston, Mass.

William T. Barnes has recently gone to Chicago to take charge of the Chicago office of Metcalf & Eddy, consulting engineers, Boston, with whom he has been associated for many years. His new address is room 1824, Harris Trust Building, Chicago.—Maurice B. Biscoe, of Course IV, who opened an office for the practice of architecture in Denver about five years ago, surprised a number of his friends in Boston by calling on them recently. This was the first time that Biscoe had been east since he went out to Denver; and while he likes the location, he seemed quite pleased to get a glimpse of the salt water. Other Tech men from Denver report that Biscoe's practice in the city is extensive and that he has done some very creditable professional work there, particularly on some of Denver's fine residences.—Grosvenor Tarbell Blood, former president of the class and Miss Elsie Louise Anderson, daughter of Mr. Frederick W. Anderson, were married in Trinity Church at Brick Church, New Jersey, on October 14. Blood is an electrical engineer with the American Telephone & Telegraph Company, 15 Dey Street, New York City.—H. N. Dawes has recently returned from an extended trip west as far as Denver. On the way out he stopped at most of the principal cities, where he had opportunity to play his favorite game of golf. In Denver he had a very pleasant visit with M. B. Biscoe, '93. He returned via steamer from New Orleans to New York, and was away from Boston about a month.—George B. Glidden, president of the class, who has been an active worker in alumni affairs for many years, has been honored by nomination to the executive committee of the Alumni Association for the next two years.—Oren E. Parks, for many years town engineer of Westfield, Mass., has resigned to take a position with R. D. Gillett who has a contract

for the construction of the Hampden Railroad.—William R. Copeland has resigned as chemist in charge of the water purification plant at Columbus, Ohio, and on October 1 began service with the Metropolitan Sewerage Commission of New York (17 Battery Place, New York City) where he will have the title of chemist. He will have charge of investigations which are being made by the commission to throw light on the capacity of New York Harbor to assimilate sewage without offense. Copeland is a graduate of Harvard and took a special course in biology at Tech with '93. From 1893 to 1897 he was connected with the sewage experiment station at Lawrence, Mass., where for a year he was in charge of the biological laboratory, for the next two years he was in charge of the experimental water filtration plant at Pittsburgh and later was in charge of the biological work at the Spring Garden Testing Station of the Bureau of Water in Philadelphia. In 1905 he was bacteriologist at the sewage testing station at Columbus, then for three years assistant engineer in the Bureau of Filtration at Pittsburgh, returning to Columbus to the position stated above.—*The Tech*, the student daily paper, in its issue of October 25, 1911, contained the following announcement of the promotion of Spofford to the position of head of the department of civil engineering: "President Maclaurin announced this morning the action of the executive committee in the appointment of Professor C. M. Spofford to be head of the department of civil engineering. Three years ago, at the time when Professor Swain went from the head of this department to a similar position at Harvard University, it was deemed best to divide the responsibilities between three men. Professor C. Frank Allen was made the representative in relation to the Corporation of the Institute, Professor Spofford in relation to the Faculty, and Professor Dwight Porter in relation to sanitary engineering. The present change comes from the wish and request of Professor Allen, senior member of the department, to be relieved of his portion of the executive duties.

"So far as the courses are concerned there will be no changes resulting from this appointment. The work of the department will be modified in consequence of the opening of the new Summer Civil Engineering School at East Machias, Me. Because of this fact there will be opportunity and facilities to do more consecutively much of the practical work of surveying and hydraulic and railway engineering.

"Professor Spofford in taking official charge of the department stated in a personal interview this morning that it is in an extremely flourishing condition. It ranks as the highest school of its kind in the country, and has started the year with a larger number of students, more particularly in the fourth year and graduate courses, than has ever been the case before. The problem of sufficient room for the students is a serious one, so that for this department the moving to other buildings is a pressing need.

"Professor Spofford, the new department head, is a Massachusetts man, who graduated from the Institute in 1893, taking a post-graduate course the following year. For some time thereafter he was employed with the Phoenix Bridge Company as draughtsman, returning to Tech as assistant in the civil department in 1896, followed by six years as instructor and two years as assistant professor. He was then called to the chair of civil engineering at Brooklyn Polytechnic Institute, where he remained till Professor Swain went to Harvard, at which time he returned to the Institute as Hayward professor of civil engineering. In addition to Professor Spofford's early experience in bridge design he has been interested in several interesting pieces of engineering work. He was retained in the examination of the strength of the Blackwell's Island Bridge. He is the author of the 'Theory of Structures,' in use at the Institute and other technical schools. He is a member of the American Society of Civil Engineers, Boston Society of Civil Engineers, National Association of Cement Users and several other important societies."

H. E. Weeks has entered into a partnership with F. R. Walker, '00. Weeks has been a practicing architect for over twenty years, and during the last few years has been head draftsman in the office of J. Milton Dyer. Before going to Cleveland he completed one of the largest summer hotels in the Berkshire Mountains, and since going to Cleveland has been identified with many large works. The new firm's offices are in the Euclid Building, 1900 Euclid Avenue.

1894.

PROF. S. C. PRESCOTT, *Sec.*, MASS. INST. of TECH., BOSTON, Mass.

During the past few months there have appeared a number of volumes by members of the class, some of which have excited most favorable comment from the reviewers.—Abbot has brought out a work dealing with astro-physics and presenting many new theories of importance to astronomers and those who are interested in the physics of planetary systems, while Fowle who is associated with Abbot has brought out a new edition of "Physical tables and Standards" which is an important contribution to this class of scientific literature.—H. N. Parker has, through the Geological Survey, published a volume of 375 pages on the quality of the water supply of Kansas which presents the results of an extended investigation conducted with the Kansas State Board of Health to determine the quality of the water supplies of the state. This report deals with the geologic features of the state as well as with the question of sanitary condition and gives very much valuable information in tables showing the relation between these two subjects.—Howes has published a volume dealing with the postage stamp issues of the Dominion of Canada which is probably the most complete work of this subject which has ever been brought out. A copy

of it was sent to King George and Howes is the proud possessor of a letter from His Majesty acknowledging its receipt.—During the summer many of the members of the class have taken extended travels but not all have been good enough to notify the secretary as have a few.—Guy Lowell was abroad sailing his yacht in the German races and the newspapers gave frequent accounts of his interviews with Kaiser Wilhelm.—Mason Chace attended the international meeting of Marine Engineers and Naval Architects at London, and then spent some time in Paris; a postal from him dated August 11 said, "I hope everything with you is going along well. I have been enjoying a few weeks in Paris. Yesterday had a flight with Farman at Bac, it was great. Best regards and wishes." The members of the class need not be surprised if they see him competing with Ovington, 1904, in aërial performances and in the carrying of the mail, although it would be more in Chace's line to develop a combination airship and submarine to be used in case of war.—McKibben took a long journey to the westward and wrote from Glacier, B. C., under date of August 14 that he was having the first vacation in over twelve years, visited the Grand Canyon, Arizona, Yosemite Valley and Alaska, was then in the Canadian Rockies and had been climbing upon and under the glacier and was going to Yellowstone Park. Had met former students in many places, "one in Spokane, one in Ketchikan, Alaska, and one on the train yesterday." It is impossible for an Institute professor or one who has taught for years at the Institute to take a journey through the West without encountering many of the men whom he knew as students at Tech.—Schiertz while waiting for conditions to become favorable to estimating on large smelting plants in Ecuador is engaged in putting up a copper smelter in Pennsylvania.—H. N. Parker has recently gone to the University of Illinois to take charge, temporarily at least, of the department of city milk supply.—The general information in regard to the class as possessed by the secretary is somewhat smaller than usual at this time of year because of a rather extended attack of malaria to which he was subjected during the summer. He would urge upon all members of the class to send from time to time a postal giving information as to their whereabouts and interesting doings.

The class babies have been increased in number by the appearance of sons in the families of H. W. Gardner and S. C. Prescott, and a daughter in the family of C. A. Howes. Both young Gardner and young Prescott are slated for the class of 1932 at the Institute.

1895.

GEORGE A. ROCKWELL, *Sec.*, 101 Tremont Street, Boston, Mass.

The class will be interested to hear that John Williamson Cooke and Mrs. Kate Frances Anthony were married on June 21, 1911,

at Waltham, Mass.—Rudolph Hering and John H. Gregory, members of American Society of Civil Engineers, have formed a partnership as consulting engineers and sanitary experts. Gregory is a graduate of Massachusetts Institute of Technology, class of 1895, and has been up to the present, engineer for the Metropolitan Sewerage Commission of New York.

The following changes of addresses are noted: Oscar C. Child, 261 Broadway, New York, N. Y.—William E. Davis, Jr., 718 East 35th Street, Flatbush, Brooklyn, N. Y.—Capt. H. C. Denson, U. S. S. *Pathfinder*, C. & G. Survey Office, Manila, P. I.—Gerard H. Matthes, 117 East Jefferson Street, Colorado Springs, Col.—E. H. Huxley, 194 Chambers Street, New York, N. Y.—Caroline H. Garland, 65 Silver Street, Dover, N. H.—Alfred F. Shurrocks, 34 Wilcox Building, Providence, R. I.—Edward E. Denison, Cumberland Club, Portland, Me.—B. C. Donham has resigned from J. G. White & Company, Inc., where he has been employed for the past three years, and is now engaged in private practice under the name of B. C. Donham & Company, 52 Broadway, New York City. His company will take up management, engineering and construction work. It starts out under favorable auspices with the management of a large land and irrigation company operating in Nebraska, where water rights are being developed to cover 80,000 acres of land. Donham's experience has covered the construction of important works in the United States and the Orient. He was for a number of years chief engineer of a large engineering and contracting firm in Korea, and designed and constructed the first water works system and the first modern electric plant in that country. The water supply of the city of Seoul, population over 200,000, was formerly entirely from wells. The sewerage of the city consists of open drains, and frequently the sewer was separated from the well by a loose rubble wall, the interstices being sufficiently open to prevent the well from becoming dry.

1896.

PROF. CHARLES E. LOCKE, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The secretary is sorry to report very little doing since the July issue of the REVIEW.—John Tilley, Charlie Lawrence, and H. C. Stevens were called upon when the secretary was in New York in August, but they had no news to report.—Professor Jacobs was down from Burlington the latter part of August and made a brief call at the Institute.—Billy Anderson is reported to have returned safely from Japan. He sailed from Vancouver early in July on the *Empress of China* which was wrecked just before reaching Yokohama. Billy fortunately escaped without loss. —The only man who is able to supply a lot of information is

Partridge. He apparently has a subsidized press and works it to the limit. The *Boston Sunday Post* a while ago contained a long article entitled "Kite Flying is Clergyman's Cure for Headache" and had a cut of Dr. Partridge with his latest box kite. The story of his past life is given and he is further quoted as follows:

> In kite constructing and kite flying I find a favorite diversion which stands me in good stead as a needed change from the hard mental grind of strictly pastoral duties. For the headaches brought on by overwork and too close application to one's study there is no cure in my estimation quite equal to kite flying.

Later on in the *Transcript* is a story of the rescue of Partridge at the annual trial of life saving apparatus at Marblehead. It seems that he was one of the volunteers who offered to ride in the breeches buoy and who received a ducking on account of it. Partridge was not in any danger on the Island; his principal menace lay in the attempts for his salvation, for he had hardly started his career for the shore when the life line sagged and he was dragged the rest of the way through water that at times nearly reached his neck. Partridge was game, however, and putting on dry clothes returned to the scene of activity and was again "rescued" in the afternoon. The latest item regarding him was that he had offered his resignation from St. Michael's Rectory at Marblehead but had found the pressure so strong that he had been forced to withdraw it.—Johnny Rockwell has been spending his annual vacation in the mountains of Tennessee as usual.

The following wedding announcement has been received: Mr. and Mrs. Elba Frank Horne have the honor to announce the marriage of their daughter, Mabel Phylinda, to Mr. Henry Docker Jackson on Thursday, the twelfth day of October, nineteen hundred and eleven, Concord, New Hampshire. Mr. and Mrs. Jackson will be at home after January 1st at 39 Albion St., Medford, Mass. Jackson deserves the best wishes of his classmates. He probably enjoys the unique distinction of being a member of three classes and of paying his regular dues in each of them. His is a fine example for those who are members of only one class and pay their dues in none.

1897.

JOHN ARTHUR COLLINS, *Sec.*, 67 Thorndyke Street, Lawrence, Mass.

Henry D. Jackson was married on October 12 to Miss Mabel P. Horne, of Concord, N. H. The wedding was attended by a number of Mr. Jackson's Technology friends. Mr. and Mrs. Jackson returned from their wedding trip about the first of November and will be at home after January first, at 39 Albion Street, Medford, Mass.

1898.

ERNEST F. RUSS, *Sec.*, 70 High Street, Boston, Mass.

Thomas M. Roberts was married to Miss Violet Kent in Brooklyn, N. Y., on Thursday, September fourteenth. They will live in Roxbury, Mass.—B. H. Johnson can now be reached at 3729 North Gratz Street, Philadelphia. He is assistant superintendent at George V. Cruson Company, Philadelphia.—Mark E. Taylor has been engaged in the design of a kit or escort wagon and has also completed the design for a six pounder balloon gun carriage. He has also done revision work on the 4.7 inch and 6 inch Howitzer carriages, limbers and caissons and Reeland cart.—George Burnham when last heard from was "just naturally living and working."—J. D. Underwood has a home in Swarthmore, Pa. He states that there are various kinds of hospitality awaiting any of his old Tech friends who find time to look him up. This sounds interesting.—D. W. Edgerly is located in New York being secretary and general manager of the Debevoir Company, manufacturers of paints and varnishes.—Arthur I. Franklin's address is 126 Firglade Avenue, Springfield, Mass. He is superintendent of Hampden Paint & Chemical Company of that city. —Herbert I. Lord writes that '98 men in Detroit are numerous and also very important citizens.—E. A. Bragg, after taking a forced vacation for about a year, owing to sickness, writes a very interesting letter about his experiences at Corbin Park. He was sent there by the Draper Company, Hopedale, and secured some rather remarkable pictures of the wild animals at close range.—Edgar A. Weimer announces the birth of a little Edgar A. Weimer, Jr.—L. H. Byam's address is now 27 William Street, Room 1807, New York City.—Shirley S. Philbrick is now at Lewiston, Idaho.—We give below a list of men for whom we have at present no addresses. It is earnestly hoped that any man who knows any recent address for these members of our class will forward same to the director of the Alumni Office, or to the secretary of the class: Barret, Alfred L.—Benson, Howard J.—Brown, Harry E.—Cashman, John F.—Corson, William B.—Currier, Everett F.—Doty, George F.—Gehring, Edwin W.—Innis, George—Kelley, Horace A.—Kleinschmidt, Frederick—Kramer, Edward D.—Lacaillade, James O.—Mack, Harrington—Mara, Joseph—Metcalf, Bryce—Nesbit, Harrison—Oelrich, Edward—Richardson, Philip H.—Robertson, Frederick M.—Sargeant, Harry B.——Southworth, George B.—Stickney, Charles A.—Ward, Ward W.—Watrous, Walter C.—Webster, James E.—Willis, Raymond S.

Milan V. Ayres has resigned as electrical and mechanical engineer of the Boston & Worcester Street Railway with which he has been connected since 1902, to undertake the creation of a department of scientific management for the Rockland Light & Power Company, Nyack, N. Y. Ayers entered upon his new

duties in July. He is also acting as chairman of the equipment committee of the American Electric Railway Engineering Association.

Clarence W. Goldsmith, '98, of Lawrence, an engineering expert in the installation of high pressure water service, has been engaged by the city at a salary of $3500 a year to supervise the work of installing Boston's new high pressure water mains for fire fighting purposes in the business district. With a corps of engineers, mostly employees of the public works department. Goldsmith started on his new duties in August.

1899.

H. J. SKINNER, *Sec.*, 93 Broad Street, Boston, Mass.

Hinckley has been appointed purchasing agent of the Boston & Maine Railroad. The following clipping from the *Railway Age Gazette* gives an account of his experience:

Benjamin S. Hinckley, whose appointment as purchasing agent of the Boston & Maine, with office at Boston, Mass., has been announced in these columns, was born November 18, 1875, at Charlestown, and was educated at the Massachusetts Institute of Technology. He began railway work in August, 1899, with the Northern Pacific, and for six years was a special apprentice and dynamometer car operator on that road. In April, 1906, he went to the New York, New Haven & Hartford as chief inspector in the test department, and was appointed engineer of tests in June, 1907, which position he held until his recent appointment as purchasing agent of the Boston & Maine.

Barry was married September 14th to Miss Martha Imogene Stevens at Sandwich, Mass.—Witherell announces the arrival of a daughter, Edith Blanchard Witherell, on September 4, 1911. —Phalen is the author of a report recently issued by the *United States Geological Survey* on the progress of the aluminum industry. —Grosvenor has recently designed a bridge to be erected across the St. Joseph River at Fort Wayne, Indiana. The following description of his plans is taken from the *Fort Wayne Journal:*

The board of county commissioners yesterday adopted the most beautiful of three plans submitted by A. W. Grosvenor, of Fort Wayne, for the new Tennessee Avenue bridge across the St. Joseph river and awarded the contract to the Lafayette Engineering Company, of Lafayette, Ind., at a cost of $38,000. The plans adopted are in direct keeping with the civic improvement plan and water front project, and gives impetus to the movement for a great river boulevard. The new bridge will be of concrete construction, with extra heavy steel superstructure, and will be faced with brick, trimmed in stone. It is of two spans, 105 feet each, forty feet wide in the clear and surmounted with attractive banisters, rising from which are ornamental electric lamp posts. The bridge will be electric wired, etc., and promises to be a classic in the City Beautiful.

The following changes of addresses have been received: J. W. Allen, 484 Watertown Street, Newtonville, Mass.—Frederick W. Caldwell, General Electric Company, Schenectady, N. Y.—

C. B. Cluff, care of N. K. Fairbank Company, Chicago, Ill.—W. M. Corse, 46 Clarendon Place, Buffalo, N. Y.—James B. Ellery, 955 Grand Avenue, Chicago, Ill.—Frank F. Fowle, 140 South Dearborn Street, Chicago, Ill.—Everett E. Goodell, 128 Cedar Street, Springfield, Mass.—Lyman P. Hapgood, P. O. Box 253, Jamestown, N. Y.—Ross Hasbrouck, 133 12th Street, Long Island City, N. Y.—F. H. Lathrop, Watson, Oregon.—W. H. Mandeville, Ashland, Ohio.—W. Scott Matheson, 3030 63d Street, Seattle, Wash.—C. L. Morgan, The Lansden Company, 54 Lackawanna Avenue, Newark, N. J.—L. A. Newell, 2205 Eudora Street, Denver, Colo.—M. F. Richardson, Peck, Stow & Wilcox Company, Southington, Conn.—Avery Robinson, Keller Building, Louisville, Ky.—Albert W. Tucker, care of Union Copper Company, Gold Hill, N. C.

1900.

INGERSOLL BOWDITCH. RICHARD WASTCOAT.
GEORGE C. GIBBS. PERCY R. ZIEGLER.
N. J. NEALL, *Sec.*, 12 Pearl Street, Boston, Mass.

Seven choice and rare spirits of the class of 1900 attended its annual outing which was held again this year at Marblehead. These were Bowditch, Draper, Leary, Neall, Reardon, Wedlock and Wentworth. As worthy representatives of the class, they enjoyed themselves to the limit of human capacity, if not beyond. Conditions were perfect; good company and good weather. The sail in the afternoon was in clear sunlight and under a fresh breeze; and the dinner, at the Corinthian Yacht Club, was even more bright and genial. Every man had a good account to give of himself. Wedlock and Wentworth both are still in the U. S. Navy Yard at Charlestown, Wedlock being in charge of construction ashore; Wentworth dealing with construction afloat. Wentworth also has much to tell about crude-oil engines and babies; and his inventive and creative faculties have in addition led him into the popular field of aviation, where he has ideas concerning the gyroscopic control of aëroplanes;—Reardon is with the General Electric Company at Lynn;—Bowditch is managing trusts (not the kind that would involve him in controversies with Attorney General Wickersham);—Draper (of old Course IX of blessed memory) is practicing law in Boston; and Neall is a busy and prosperous engineer, who has been spending his summer week-ends sailing and otherwise at the aforesaid Corinthian Yacht Club. Messages were received from A. S. Merrill, G. W. Emery, Chester A. Richardson and Lawrence S. Smith, expressing regret at enforced absence from the meeting and wishing the class a felicitous occasion. It was also reported that Gibbs, now an Episcopal clergyman, is located at Tulsa, Oklahoma. The Boston contingent of the class regrets that

Gibbs is so far away, as he has been a most valued attendant at class affairs.—E. H. Davis, professor at Purdue University and registrar of that institution, announces his marriage to Miss Edith Rebecca Appleby. Davis is doing exceptionally good work, it is reported, and the class congratulates him upon both his professional and matrimonial success.—An account of Leary's doings has been omitted thus far because they need a paragraph or rather a whole evening's talk for proper narration. From 1902–1905, he was mining at Spangler, Pennsylvania, which was rough and interesting; but more recently, from May until December, 1910, he was surveying in the Allegash and Chesuncook region, north of Moosehead Lake, Maine. He was in charge of a party of engineers, running the line for a proposed railway. Leary has been induced to have slides made from photographs taken in the woods and has promised to give the class a talk at an early winter meeting. This is an advance notice of our first monthly meeting of the season, the exact date for which has not yet been set. —Dick Wastcoat made a call on Bowditch and reported that he was doing a very good business. He is still very much interested in military matters and as company quartermaster sergeant in the Coast Artillery did his share last summer in seeing that the men of his company were properly taken care of.—*The Engineering News* has published an article about an accident to the roof of one of the buildings being built in Winnipeg by the George H. Archibald Company. Everybody remembers Archibald, especially those who went to Summer School at Cherryfield. Fortunately the accident was not serious.—Ziegler had an exhibition of dairy machinery and supplies at the Industrial Exposition at the Mechanics Building. He had eight cows which he used to show off his milking machines.—Frank R. Walker, who has spent the last seven years as head designer in the office of J. Milton Dyer, Cleveland, Ohio, has formed a partnership with H. E. Weeks, '93, with offices at 1900 Euclid Avenue. While with Architect Dyer, Walker aided largely in the designing of the new Cleveland City Hall, the First National Bank and the Athletic Club. After leaving Boston, Walker studied in New York, and later in Paris and Italy.—A small book of one hundred and thirteen pages, of vital importance to 1900 men, remains to be reviewed: *Massachusetts Institute of Technology, First Decennial Record of the Class of 1900*, published by the class. It tells what the men who "worked and slaved before they shaved" back in the years 1896–1900 are doing now that they are "passing thirty." It is a work with a thrill on each sheet and maintains its lively interest from G. O. Adams on the first page to Percy Rolfe Ziegler on the last. Price, one dollar, and as much more as the purchaser wishes to pay. (Some have considered it cheap at ten dollars.) Special notices of this publication will be sent to every member.

Elwin H. Dimock

News of the death of Elwin H. Dimock, Course II, has been received. In 1908, after several years of active business life, Dimock entered upon a course of study for the ministry. Until 1910 he was in the Newton Theological Institute and in the summer of 1910 he preached in Nova Scotia. Last fall he entered Colgate College for a finishing course, and studied throughout the first semester, although he had already become afflicted with tuberculosis of the larynx. He died at Hamilton, N. Y., on April 6, 1911. The class expresses its sincerest sympathy to his family and particularly to Mrs. Dimock, his widow.

1901.

Robert L. Williams, *Sec.*, 154 Magazine Street, Cambridge, Mass.

The first decennial outing of the class was held Saturday, June 24th, at Nantasket Beach. Although our numbers were few we did not lack in enthusiasm and fun. It was a fine afternoon for bathing and afterwards we took in Paragon Park and incidentally a shore dinner. The regular annual meeting was called to order on the beach and the following officers elected for the ensuing year: President, Preston Player; vice-president, Edmund F. Brigham; secretary-treasurer, Robert L. Williams; assistant secretary, Ralph H. Stearns; musical director, Howard T. Chandler; executive committee, Norman L. Skene and W. S. Pepperell. On account of so many of the class having left Boston and being unable to attend the class meetings, the constitution was amended so that in the future the class officers could be elected by a postal ballot. The secretary is still at work on the First Decennial Record book and would be pleased to hear from any who have not replied to his letters as yet.—Ellis F. Lawrence has been elected president of the Oregon State Chapter of the American Institute of Architects which has just been organized. He is also acting as professional adviser in a competition for a new public auditorium for Portland, Oregon.—Edward H. Davis was married July 21 to Miss Edith R. Appleby at Detroit, Mich. They will be at home after October 15th at 304 Russell Street, West Lafayette, Ind. The congratulations of the class are extended to them.—Salvador Madero was peace commissioner from the Government to the Insurgents during the late revolution in Mexico. His official residence is Parros, Mexico, but most of his time is spent in Monterey, Mexico.—James C. Woodsome is now manager of the Tampa Electric Co., Tampa, Florida.—Alfred D. Nutter, as engineer in charge of structural steel work for Allegheny County, Pa., has charge of the design and construction of bridges for the county. At present he is building a cantilever bridge over the Ohio river at

Sewickley, Pa.—John F. McGann is vice-president of the T. F. McGann & Sons Co., manufacturers of architectural and sculptural bronze and brass. He has general charge of all shop detail and the outside erection of work.—The following recent changes in addresses have been received:—Harry E. Dart, 26 Ashley Street, Hartford, Conn.—E. P. Fleming, Braden Copper Co., Rancagua, Chile, So. Am.—James R. Putnam, Woodside Ave., Waterbury, Conn.—Ralph Whitman, U. S. Naval Station, Guantanamo, Cuba, via Postmaster, New York.—C. L. Albiston, 76 Oliver Street, Pawtucket, R. I.—F. S. Clapp, 502 Fitzsimons Bldg., Pittsburgh, Pa.—J. C. Woodsome, Tampa Electric Co., Tampa, Florida.—Langdon Pearse, of the Sanitary District of Chicago, delivered an illustrated lecture on "Sewage Disposal" before the Civil Engineering Society of Purdue University on October 5. The work of the Sanitary District and the scope of the testing station were described.

1902.

F. H. HUNTER, *Sec.*, 281 Park Street, West Roxbury, Mass.

William R. Greeley was chosen early in the spring, through a competition, to design a memorial tower to the first settlers of Hingham, Mass. It will stand upon a rise of ground at the center of the town's activity, and is to be a 75-foot shaft, 20-foot square at the base and slightly tapering toward the top. The upper story, and the one for which it was chiefly designed, is a belfry 16 feet square, with louvres on all four sides, and is surrounded by a pyramidal slate roof. Under the belfry is the high ringing chamber with long narrow windows. Below this is the committee room, and on the ground floor is the memorial room in which an ancient stone sent from Hingham, Eng., is to be set, together with other such objects of historical interest. The exterior is designed in Dutch brick, and is rigidly simple in general outline, depending for its richness upon carefully studied panels and vertical ribs, and upon superficial decoration, both in brick patterns and in colored tiles.—Robinson is now superintendent of fire records for the National Fire Protection Association, 87 Milk Street, Boston. His duties include assisting in the editing of the quarterly issued by the association for spread of fire protection intelligence. The following is clipped from the *Insurance Standard* of October 14:

J. Albert Robinson, for eight years an inspector with the Underwriters' Bureau of New England, and who a short time ago became superintendent of fire records for the National Fire Protection Association, was tendered a farewell dinner on Friday evening of last week, at the American House, Boston, by his former associates in the Bureau. Gorham Dana, manager of the organization, presided. A pleasant feature of the occasion was the presence at the dinner of W. P. Tenney, Alexander Ellis and G. B. Holt, former inspectors of the Bureau.

Mr. Robinson, who during his connection with the organization has won the respect of both his associates and superiors by reason of his efficiency and ability, was presented with a leather thermos bottle case as an expression of their good will.

The gift, and many more or less humorous ones were appropriate to "Robbie's" adventures in his new Grout auto.—Harry Hooker is with Paine Webber & Co., Bond brokers, 82 Devonshire Street, Boston.—Edwards writes from Portland, Oregon, that beside his laboratory work in cement testing, he is consulting engineer for the Portland Cement Company of Portland, and is inspecting engineer for concrete and concrete materials for the Portland Railway, Light & Power Company. He reports a great deal of concrete work being done in the northwest and is full of enthusiasm about the country and the business prospects there. His office is No. 426 Railway Exchange Building.—Walter Putnam is engineer for the Texas City Company, Texas City, Texas. —Everett is now assistant professor in the department of naval architecture at the Institute.—Bourneuf is with L. M. Ham & Co., 152 Portland St., Boston. His residence is now 95 Trenton Street, Melrose, Mass., and his family is larger by a young daughter, born on October 15th.—The class secretary has made a business change, being now located with Waldo Bros., the well-known dealers in masons' supplies, at 102 Milk Street, Boston.

There have been several weddings since the July REVIEW was issued. The class secretary led off, having married Helen A. Sewall of Cincinnati on August 22. The wedding took place at the home of the bride's sister at Gorham, Maine, and was attended by the near relatives and a few friends. The honeymoon was spent camping in the virgin forest in the Great Gulf of the White Mountains. Mt. Washington and other peaks were climbed when the weather favored. H. D. Strong, '03, who took his first year at Tech with '02, was camping with two brothers in the region and was met several times. On September 11th the secretary and his wife tramped over the northern peaks of the Presidential Range and at the summit of Washington met Mr. and Mrs. C. H. Boardman, Jr., who had driven up from Jackson, N. H., where they were spending their vacation. The secretary and his wife are now at home at the address at the top of this column, and can be reached by 'phone, "2416—M Jamaica."—Dana Fisher was married to Miss Gertrude Elizabeth Shaw of Norton, Mass., on September 2. After an outing in Nova Scotia, they are at home at Riverbank Court, Cambridge.—Jason Mixter was married on September 21 to Miss Dorothy Fay. The wedding which was to have been held in the Church of the Messiah at Woods Hole, Mass., was held quietly at the summer home of her parents in that town, owing to the critical illness of the bride's sister.—Charlie Mixter's wedding took place on October 5, just two weeks after his brother's. His bride was Miss Helen Worthington McIntosh of Milwaukee. Both Charles and Jason Mixter will continue their surgical work in Boston.—Capen was married on October 10 to Miss Elizabeth Alice Greene of Warwick, R. I. "Robbie" was "best man" and after the affair was ended brought Mr. and Mrs. Capen

to Boston in his auto. Dana Fisher and his wife were among the guests, and Fred Farrell, '05, was an usher. The service was held in the old historic meeting-house in Warwick. After a brief trip Mr. and Mrs. Capen will make their home in Omaha.—The sixth wedding in the class was Westcott's. He was married to Miss Sarah Ida Underhill at East Orange, N. J., on October 9.—The class committee is arranging for a dinner to be held in Boston during November, and other events later in the season. Plans are also underway for the class record to be prepared next year and for the decennial reunion to be held next June.

1903.

F. A. Olmstead, *Sec.*, Oregon City, Ore.
R. H. Nutter, *Asst. Sec.*, Lynn, Mass.

The class outing at the Vesper Country Club, Lowell, on June 30 was a decided success and the opinion of all who attended was that an outing of this kind should be held each year. The success of the affair was due to the way in which it was handled by the committee consisting of Thwing, Sears and Gleason, and to Mr. E. B. Carney, '93, through whose kind invitation we were able to enjoy the hospitality of the Vesper Country Club.

Thwing's good "write up" of the outing follows:

"Friday showed a marked depression in industrial stocks. There was a drop of from one to five points, and the market showed very unsettled conditions at the close; no satisfactory reason has been offered for this drop." Quotation from the *Wall Street Journal*, June 30, 1911. If the writer of the above could have been on Tyng's Island on that date, and counted up the captains of industry there assembled, he would have understood, without further explanation, the reason for this business depression. On that day the office boy studied the life and adventures of Nicholas Carter, without interruption or restraint. The blonde stenographer chewed gum and wept over the trials and tribulations of "Bertha, The Beautiful Boiler Maker," by Bertha M. Clay (introduction and critical notes by Peter Schwamb). Superintendents and foremen; lumpers, draftsmen, blue print boys and errand boys all felt the loss of a controlling hand. Production was curtailed and the world's business received a temporary check amounting to 11.203% on the whole (2.2% allowance being made for C^2R and hysterisis losses). We are pleased to report, however, that the next day every one was on the job, and stocks regained their previous values.

Officially, on Friday, June 30, fifteen fortunate members of our class embarked on the 12.20 Montreal express. Through the efforts of Gleason, some time member of the Glee Club, a portion of the dining car was reserved for us, and the train made a special stop

at the Vesper Club's private bridge, leading to the island. After some trouble with the nickel-in-the-slot turnstile at the insular end of the bridge, we arrived safely on the club grounds and proceeded to enjoy ourselves according to our several desires; some played base-ball, and others played tennis, while those that did neither, sat on the grass, or on the veranda, and found fault with the technique of the various players. There was still another esoteric coterie that lingered ever near the ice box where the beer was kept. Although we had only one case of 24 bottles, the above group consisted of only 5 persons, and there was none left at night. (These are what are referred to in the opening chapter of the physical laboratory notes, as *significant figures.*) After the foregoing labors were concluded, luncheon was served, and a digestive period followed; then more tennis, walking or talking. The author of this report has not much to offer in the way of general news for the remainder of the afternoon, as Bacon and himself were busily defeating Stiles and Brown at tennis; at least they would have done so if Sears had not appeared inopportunely, and dragged every one off to dinner. The dinner, however, was certainly a credit to the management of the Vesper Club, and was heartily enjoyed by every one. After dinner we went together for a walk over the club grounds and then departed to our various homes, after having had the best time which the class of 1903 ever had on one of their gatherings. The following members of the class were present: Scholtes, Denham, Mason, Aldrich, Stiles, Peaslee, M. H. Clark, Bacon, Nutter, Wing, Thwing, Foster, Sears, L. P. Brown, Gleason.

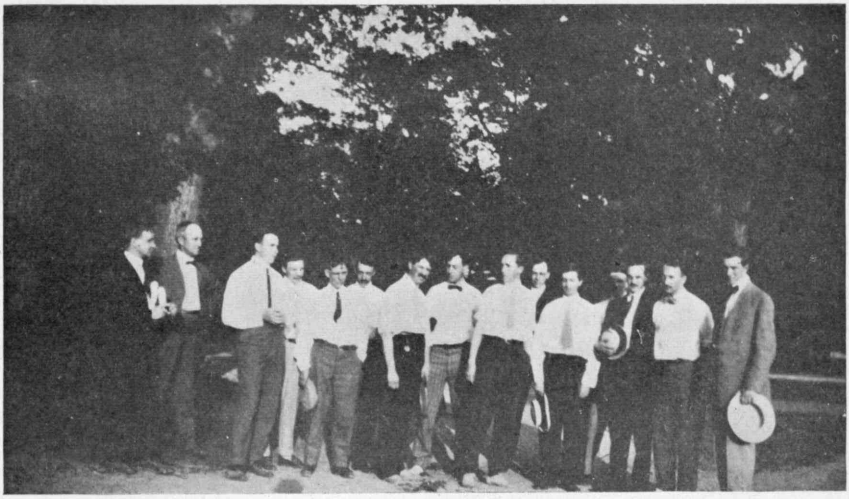
The writer cannot close without offering to Mr. E. B. Carney, '93, the hearty thanks of all those who enjoyed his hospitality at the Vesper Club. We thank him for the tangible and material evidence of his forethought and still again for his spirit of good fellowship.

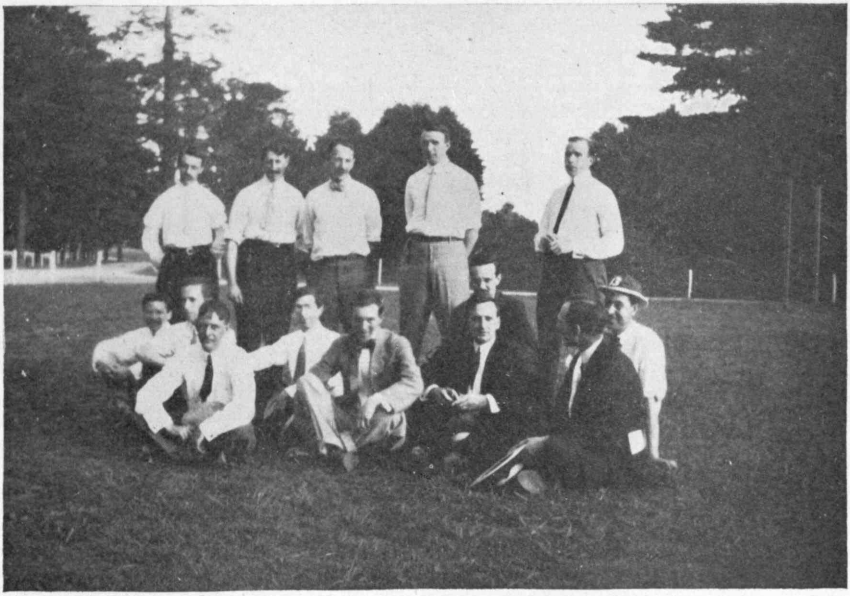
The following marriages are noted:—I. F. Atwood to Miss Clara Hilda Greenleaf at Gloucester, Mass., June 28.—E. A. Comer to Miss Annette Putnam Woodbury, at Salem, Mass., September 5.—A. S. Martin to Señorita Celina Soto at Costa Rica, July 5.

At the annual outing of the Technology Association of Connecticut Valley, E. W. Pelton was elected secretary and treasurer for the next year.

Plans are being made to hold a series of informal class dinners during the winter. Notices will be sent out later. Every '03 man should plan to take in these dinners as they offer a fine opportunity to renew old friendships and to let the world know that M. I. T., '03, is still on the map.

Kenneth W. Endres, VI, is the proud father of a son, Kenneth, Jr., born September 20th at Short Hills, N. J. It will interest the class to know that Kenneth, Jr., is preparing for M. I. T.





MEMENTOS OF THE FIELD DAY OF THE CLASS OF 1903

At the Vesper Country Club, Lowell, Mass., June 30, 1911

1904

EVERETT O. HILLER, *Sec.* Technology Chambers, Boston, Mass.
ADDISON F. HOLMES, *Asst. Sec.*, 7 Holborn Street, Roxbury, Mass.

There has been little doing in class affairs during the summer. An attempt was made in August to get up a party of '04 members for an outing at the Vesper Country Club, Lowell. A number of causes combined to prevent the men from attending, so the scheme was abandoned. The first outing at the Vesper Country Club a year ago was very successful and it was hoped that the experience might be repeated.—We have a welcome word from Bouscaren who has handled much important work for Stone & Webster other than that mentioned in his letter quoted herewith:

Galusha and I are working on the electric installation of the hydro-electric plant at Keokuk, Ia. This plant will be, when completed, the largest electrical installation in the world, developing 240,000 H. P. from the waters of the Mississippi River.

—Under the letter head of the Perfection Specialty Company, 65 Thomas Street, Portland, Me., we have the following from Sam Worcester:

Regarding myself and experiences there is little out of the ordinary. Two of the last five years I spent in the paper manufacturing trade running a moderate sized board mill. The last three I traveled all over the United States selling and demonstrating a special process of manufacture. During the past year I developed and put on the market the Premo Pen-Pellet Ink, and had such good success with the same that in February I made one more change, this time coming here to live and going into business on my own account. Since then all I can say is that I have found that, when one works for oneself the day does not consist of any stated number of hours. However, the point of view also has changed, and though busy as can be the added interest is sufficient compensation.

—George H. Powell was married on the 4th of November at Philadelphia to Miss Mary Elizabeth Bonsack.—Carl King has left the wire mill of which he had charge to accept a position as a teacher in the new Wentworth Institute in Boston.—The secretary was fortunate enough to see Ovington finish his successful Nashua-Worcester-Providence-Boston flight held in connection with the Harvard-Boston flying meet for the $10,000 prize offered by the *Boston Globe*, and to congratulate him and Mrs. Ovington upon the showing made. His arrival at the field was a very spectacular event. Reports from various points from Providence to Boston were received as he passed the successive towns and finally he was seen, in the twilight, just a speck over the great blue hill to the south of the field. Tom Sopwith, the English aviator, went out in his Blériot monoplane to meet and escort him in. He approached the field flying very high and all at once by one hair-raising volplane swept down and landed. The accomplishment of the flight, which others of longer experience would not attempt,

and the spectacular nature of the arrival moved the large crowd to a wild demonstration of enthusiasm.—"Reggie" Wentworth is the proud father of John Wentworth, born July 10. The Tech show of 1931 is assured of an efficient manager if the son follows the footsteps of his illustrious father.

The following changes of addresses have been called to the secretary's attention:—Henry C. Field, University Club, Seattle, Wash.—William H. Foster, 53 Winthrop Street, West Newton, Mass.—L. R. Grant, Seattle Electric Company, Seattle, Wash.—Robert S. Hamilton, Lewistown, Mont.— L. A. Herman, 189 Bridge Street, Fall River, Mass.—R. A. Wentworth, 2045 North 63d Street, Philadelphia, Pa.—Fremont N. Turgeon, 7 Commonwealth Avenue, Gloucester, Mass.—T. W. Steidemann, 4110 North 11th Street, St. Louis, Mo.—Herbert L. Shores, 267 Howard Street, Rockland, Mass.—Richard S. Shohl, 714 South Crescent Avenue, Avondale, Cincinnati, Ohio.—Alex. W. Richards, Totten & Rogers, 808 17th Street, Washington, D. C.—John B. Rapier, 352 State Street, Mobile, Ala.—Henry S. Pitts, 5551, Von Versen Avenue, St. Louis, Mo.—L. W. Nickerson, 5530 Locust Street, West Philadelphia, Pa.—Frederick W. Horton, care of U. S. Bureau of Mines, Washington, D. C.—Samuel T. Worcester, 65 Thomas Street, Portland Me.—A. P. Weymouth, 1927 East 59th Street, Cleveland, Ohio.—Ralph B. Williams, 249 High Street, Newburyport, Mass.—Edwin F. Allbright, care of Stone & Webster, 147 Milk Street, Boston, Mass.—K. M. Baum, Lens Department, American Optical Company, Southbridge, Mass.—John S. Bridges Jr., care of Hixon Electric Company, 246 Summer Street, Boston, Mass.—Harry H. Cerf, 361 South Fairmount Avenue, Pittsburgh, Pa.—Evarts W. Charles, Baker, Ore.—E. L. Clifford, care of Kentucky Electric Company, Louisville, Ky.—Emmet Cockrill, 911 Scott Street, Little Rock, Ark.—Joseph W. Crowell, 1022 Commonwealth Avenue, Newton Centre, Mass.—Irving E. Adams, Hazel Atlas Glass Company, Clarksburg, W. Va.—Hiram A. Hill, Shokan, N. Y.—Grant Ford, 432 West 61st Place, Chicago, Ill.—Carl King, Wentworth Institute, Boston, Mass.

Edward F. Parker, Jr., Course IX., '04, was a delegate from the Beacon Trust Company of Boston, to the convention of the American Institute of Banking, at Rochester, N. Y., September 7–9.

1905.

GROSVENOR D'W. MARCY, *Sec.*, 246 Summer Street, Boston, Mass.

William Frederick Becker and Miss Charlie Katherine Hummer Proctor were married at Bowling Green, Ky., on June 26. They are now at home at Berwyn, Ill. Becker and his brother operate the American Maintenance Company of Chicago.—Roswell Davis and Miss Helena Stone, of Washington, Conn., were married

September 1. Last June Ros was in the wilds of Arkansas, building a veneer factory, and the secretary had a picturesque letter from him describing the beauties of a place whose chief products were mud, mosquitoes and malaria, and where the only excitement was meeting the four daily trains. But this is all changed now, and Ros is back in Elizabethport, N. J., with the Singer Manufacturing Company, and is a settled family man.—Bob Folsom announces the birth of a daughter, Ruth, on September 1.—The secretary received a very pleasant note from Kiyo Makino, expressing his interest in the REVIEW and various class communications, and enclosing dues for five years. Makino is located at St. Margaret's School, 26 Akashicho, Tsukiji, Tokyo, Japan.—Jack Flynn has resigned as mechanical engineer with the Isthmian Canal Commission, and is arranging to settle down here in the north and lead a quiet respectable life. His present address is 31 Marcella Street, Roxbury, Mass.—Bill Spalding has resigned as superintendent of the electrolytic refinery of the Buffalo Smelting Works, and also from his professorship in the Buffalo University and his official connection with the militia, to take up the application of scientific management. He will spend two months in Germany and Switzerland studying methods, and on his return will undertake this work in a large plant in Buffalo.—Sid Cole left the Gas Company at Little Rock, Ark., to become manager of the Fort Madison Gas Light Company, Ft. Madison, Iowa.—Roy Allen writes from Villa Escobedo, Chih, Mexico:

> No news, nothing but work. Now that the revolution is over we are going right ahead with our plans. Have started a new 1000-foot, three-compartment shaft, and within a year hope to be taking out 300 tons of ore daily, and be paying good dividends. Railroads and mail service have been tied up so much that I haven't heard from any of the fellows for many weeks, so can give no news of them. Three cheers for '05 and the NEW TECH!

—Ernest G. Schmeisser, after several years with the New York Central & Hudson Railroad and the Pennsylvania Tunnel & Terminal Railroad Company, has left them to take the position of 2d vice-president with the Wiener Machinery Company, 50 Church Street, N. Y. They deal in punches, shears and heavy machinery for structural work, and have increased their capital and established branch offices in Boston and Pittsburgh.—Horatio Whiting has left the patent office and opened an office of his own at 30 Vesey Street, New York.—Eugene F. Kriegsman made a short visit in Boston this fall, being the first time he has been back since graduating. He is carrying considerable work as designing and constructing engineer, with headquarters at 1537 Larkin Street, San Francisco, and reports that F. M. Eaton and B. G. Philbrick are doing well with the Eaton-Philbrick Laboratories, chemists and bacteriologists, 444 Market Street, San Francisco, also that Fred Frazer is with the Crescent Feather Company

of that city.—Charlie Clapp writes from Geological Survey, Ottawa, Ont.:

Have become a member of the Canadian Geological Survey as well as a benedict, and am out here on the coast again for the summer, working up the Nanaimo coal fields. Am just now revelling in coronation doings almost as if I were a Britisher, but surely not a ——— one.

—Hallett R. Robbins writes from Haines, Alaska:

Since August, 1910, I have been engineer for John Rosene of Seattle. This summer I am locating a trunk line of railroad into the interior from this place, opening up some large deposits of iron and copper ore, investigating the water-power resources of this region, and will make an exploration trip later in the summer to the headwater region of the White River in Yukon Territory. Permanent address, Box 51, Seattle, Wash.

—B. L. Johnson gives a most interesting account of the work with the U. S. Geological Survey in Alaska in the following letter:

It is rather a long call between the Rathskeller of the American House in Boston, and Seward, Alaska, and it is some time since I promised to outline my doings the last year or so. I took up the Alaskan work in 1909, leaving Seattle on June 2, going up the Inside Passage, over the White Pass, and down the Yukon, through the Klondike and farther on down the Yukon to Circle, Alaska, where we unloaded our horses and began work. Our work that season consisted in geologic mapping of the northern portion of the Fairbanks quadrangle and included a trip to Fairbanks and to the gold quartz discoveries in that district. Of a pack train of seven horses when we started we had three left when we reached Rampart on our way out. We returned up river and spent the winter in Washington, D. C. In 1910 I was assigned to a party to work along the south slopes of the Alaskan Range. We left Valdez with a pack train of eight horses and five men and mushed 200 miles into the interior, striking out first to the Slate Creek District to the east, and then doubling back on our track into the new country to the west, winding up at the end of the season on Valdez Creek at the head of the Susitna River. We mapped the geology along our route, paying especial attention to the economic possibilities of the placer gold camp on Valdez Creek. After a 250 mile hike to the coast at Valdez, we sailed for the outside and again passed the winter in Washington. Coming to the present season, I have been assigned to this district. There are four geological survey parties in the Kenai Peninsula this year, two geologic and two topographic. My party, of one, is to make a detailed investigation of the gold quartz discoveries which have recently been made here. In July and August one of the topographic parties will make a detailed topographic map of the Moose Pass district which I will use in later geologic work. Numerous promising gold quartz veins have been found and developments are now in progress on several of the creeks. This detailed map on a scale of one mile to the inch will cover an area of about fifty square miles. The rest of the area will be mapped on a scale of about three miles to the inch, and these maps will be available for my use in the geologic work. At the end of the season, probably in September, after a short visit to Latouche, I am to spend a few days in Valdez and vicinity, where a small sized gold quartz boom is on at present. Will close here for if I went into detailed descriptions of the country or the work of the past two seasons, I would have but little time for the coming season's work.

—Harry Wentworth describes an interesting trip to some of his mining property in the following letter, headed Half Moon Gulch, Col.:

I have just received your notice of the class dinner on the sixth, and guess I'll not attend this time, though I am sorry to have missed it. I have been hitting the trail for the past four weeks and am now writing in a log cabin in the woods. Yesterday went up to the top of Champion mountain (14,100 ft.), and I tell you it makes us fellows from the sea level puff the last few hundred feet, especially those that have my build. The snow is still pretty deep in the ravines up here, and one can go in a couple of hours from the nice flowers into the deep snow. This cabin is in the gulch between the two highest mountains in Colorado, Mount Massive (14,468 ft.) on the north, and Mount Elbert (14,464 ft.) on the south. I have been travelling the country hereabouts for the past ten days on horseback, and I have about come to the conclusion that all my meals hereafter will be taken from the mantelpiece. When not otherwise engaged I have been helping "punch" jacks through the snow. A jack hates the water, especially these mountain streams, and neither coaxing nor clubbing seems to assist him to cross a creek in the snow if he doesn't so desire. The only recourse left is to put a rope around his neck, tie the other end to the horse's tail, and haul Mr. Jack in any position he happens to fall across the stream. The pleasant part of this is that it does not seem to disturb the jack's good temper. There are many such things here in the mountains to interest the easterner. After spending ten days in the southern part of Missouri while the temperature tried to push off the 100 mark on the thermometer, I have just gotten cooled off up here, and hope now to get home before long.

—Jimmie Barnes writes that the class baby and his twin sister are growing to be big and fairly well-behaved children. (Note by editor,—How like their father!) They have started school this fall. Just think of that fellows, the class baby in school already. How behind the times you single fellows must feel!—It is rumored that the mighty class of 1902 meditates challenging the class of 1905 to a bowling tournament. Ways and means will be discussed at the Friday luncheons at the American House, which every '05 man in or near Boston should attend.

1906.

RALPH R. PATCH, *Sec.*, 15 Lincoln Street, Stoneham, Mass.

The secretary has received announcements of three interesting weddings of classmates: Herbert Stockwell Whiting and Miss Helen Jeannette Gough were married on Saturday, June 3, at Jersey City, N. J.—Another wedding was that of David Darby Eames to Miss Lilian Agnes Deiss on June 26 at Roxbury. The *Transcript* of August 7 had a notice of the engagement of Lemuel D. Smith to Miss Cora Cudworth who was graduated from Boston University Law School last June, the statement being made that the wedding was to take place in September.—The secretary has received a number of letters from members of 1906 giving information in regard to their doings and whereabouts.—H. R. Patterson is in Trenton, N. J., where he is connected with the Trenton Iron Works as assistant superintendent.—Paul S. Schmidt writes that he was with the Courtney & Emerson Engineeering Co., civil and structural engineers from 1906 to 1910. Since then he has been in business for himself as architectural engineer, making

a specialty of designing factories and warehouses.—R. W. Seyms is in California, but he has not sent us his address.—S. W. Wilder is at 64 17th Avenue, Paterson, N. J., where he is superintendent of the Dolphin Jute Mills. He has been connected with the mills since he left the Institute.—Stanley, who writes that he is married, was with the Westinghouse Electric & Manufacturing Co., for a year, and since that time he has been connected with the Canadian branch of the Stanley Rule & Level Co., and later with the Stanley Rule & Level Co., of New Britain, Conn.—Arthur T. Trowbridge writes that he has averaged one position a year since he left Technology. He first became connected with the Gifford & Wood Co., Hudson, N. Y., manufacturers of ice-handling machinery where he was engaged in drafting. He then did general mechanical engineering for a little over a year with the Winchester Repeating Arms Company, of New Haven, Conn. From there he went to the George F. Blake Manufacturing Company, East Cambridge, Mass., where he was in charge of the design for new construction and repairs on the plant. For about a year and a half he was connected with Lockwood, Green & Co., in Boston and is now with the American Agricultural Chemical Company, 92 State Street Boston, in their engineering department.—Maxwell A. Coe is connected with the Stanley Rule & Level Co., of New Britain, Conn.—H. V. Coes went into the telephone manufacturing business after leaving Technology and then made telephones in Indianapolis. He spent some time in the shops of the Pennsylvania Railroad at Altoona, and then went to New York with the New York Edison Company as assistant engineer. He afterward became mechanical engineer with the Liquid Carbonic Company of Chicago, in which capacity he designed, built and operated the largest carbonic acid factory in the world, at Cambridge, Mass. He recently resigned from the Liquid Carbonic Company to become manager of the Chicago office of Lockwood, Green & Co., of Boston. His present address is First National Bank Building, Chicago. He is the author of the following articles: "Can Railroad Collisions be Reduced to a Theoretical Minimum," *Engineering Magazine* for 1908; "A Decade of American Railroad History in Graphic Form," *Engineering Magazine* for 1908; "Steel Rail Breakages—Questions of Design and Specifications," *Engineering Magazine* for 1908; "Smoke Prevention or Smoke Consumption," *Engineering Magazine* for 1909; "The Necessity of Thorough Preliminary Work in Industrial Undertakings," *Engineering Magazine* for October, 1911.—F. E. Earl is at 55 South Water Street, New Bedford, Mass., where he is in business for himself after having spent five years in Boston with a firm of steam fitting contractors.—C. E. Warren's address is 236 6th Avenue, La Grange, Ill. For the first three years after leaving Technology he learned the machine business and became manager and secretary-treasurer of the company, which was located at Crowley, La. His health broke down and

he had to give up his work there. He is now assistant to the vice-president of Seymour & Peck Co. of Chicago. He is married and has one child, a girl.—W. W. Gaylord is at Waterbury, Conn., where he is connected with the engineering department of the American Brass Company. He is engaged in the laying out and designing of power generating and transmission machinery used in the company's mills. His address is 42 Mitchell Avenue.—H. W. Brown is assistant engineer with the American Agricultural Chemical Company.—Hermann C. Henrici became engineer with the Bell Telephone Company of Kansas City, Mo., on leaving the Institute, and later was manager for the Bell Telephone Company in various localities. He now owns a half-interest in the W. T. Osborn Electrical Company, Kansas City, Mo.—Charles E. Johnson, after spending two years in the service of the Telephone Company, is in the engineering department of a large construction concern which is erecting a number of structures at Gary, Ind. His address is care of Riter Conley Manufacturing Company, Pittsburgh, Pa.—Ernest W. Smith was a student engineer in France, Germany and England after leaving the Institute, giving particular attention to the alkali industry. From 1907 to 1909 he was in the soda ash department of the Solvay Process Company of Syracuse, N. Y., and for the next two years was works manager of the Royal Solvent Company, Orange, N. J. He is now with the W. E. Wood Construction Company, Ford Building, Detroit.—James F. Wick spent two years with the Youngstown Sheet & Tube Co. as assistant master mechanic and inspector of new construction and equipment. Since 1908 he has been manager and treasurer of the Crystal Ice & Storage Co., Youngstown, Ohio. He is married and has one boy.—Harry H. Cook sends his address as 44 Massachusetts Avenue, Springfield, Mass. After leaving the Institute he became chief draftsman of the Coffin Valve Company and later engineer for the Edison Electric Illuminating Company. He then became chief engineer of the Coffin Valve Company where he remained until 1910. He was mechanical engineer of the Providence Engineering Works for a year, and is now mechanical engineer of the Chapman Valve Manufacturing Company. He is married.—Lewis A. Riley, 2d, was married May 20, 1911. He is now engineer in charge of maintenance and way works, grade reduction surveys, etc., for the Lehigh & Hudson River Railroad Co. He was with J. G. White & Co. of New York for one year, afterward taking his present position.—A letter will reach S. A. Nash, Box 332, Tuscaloosa, Ala., where he is concrete inspector for the Tuscaloosa Railroad. After leaving Tech he was salesman for a wholesale paper house and then went with the New York Central & St. Louis Railroad in the surveying corps.—J. W. Anderson writes that he has been employed in various shipyards on the Atlantic coast, but gives no present address.—

Fred S. Phelps was with the American Steel & Wire Co., Worcester, for a time and is now assistant superintendent for the Pacific Works of the American Steel & Wire Co., San Francisco, Cal.—H. J. Ball is an instructor in the Lowell Textile School in the engineering department. He has assisted in installing the Taylor system at the Watertown Arsenal, has done mechanical engineering for the Lincoln-Williams Twist Drill Company at Taunton, and has been engaged on building construction at the Lowell Textile School. He is married, and a daughter was born May 17, 1910.—Harry V. Fletcher has been engaged in civil engineering work since leaving Tech. He is married and his address is 308 Mason Building, Houston, Texas. He is a member of the firm of Dewson, Fletcher & Teich, architects and engineers. —A. H. Keleher was with the New York Edison Company for two years and is now with the Holophane Glass Company of New York, 16 East 40th Street, New York City. He is in charge of the Holophane business in the Latin-American countries.—The address of R. B. Gregson is Box 164, Southbridge, Mass., where he is connected with the American Optical Company.—Allyn C. Taylor gives his residence at 34 Pitt Street, Charleston, S. C. He has been connected with the United Gas Improvement Company of Philadelphia since leaving Tech. His locations have been in Philadelphia, Harrisburg, Pa., and now he is superintendent of the gas department of the Charleston Consolidated Railway & Lighting Co., Charleston, S. C. Taylor is married and has one daughter, born May 29, 1910.—Walter H. Trask, Jr., is engineer of the United Hydro Electric Company, Idaho Springs, Col. After he left Technology he became inspector on the New York Central and Hudson River Railroad, electrical department. He then went to the Denver Engineering Works and afterward became assistant to the manager of the sales department of the Central Colorado Power Company.—Wendell P. Terrell went with the General Electric Company at Lynn as draftsman for a few months after leaving the Institute and then became professor of mechanics and superintendent of the mechanical department, Prairie View State Normal and Industrial College, Prairie View, Texas. In 1910 and '11 he was a special student in architectural engineering at the Institute.

Charles Emerson Hovey.

A cable from the Philippines announces the death on September 24 of Charles E. Hovey, U. S. N. Ensign Hovey received his commission in 1909, and made the cruise around the world on the U. S. S. *Connecticut*, later being transferred to the U. S. S. *Ohio*. He was ordered to duty in the Philippines, having been assigned to the gunboat *Pampanga*, and met his death at the hands of the natives on the Yucan Islands. Hovey was both an able

and popular man, and had recently published a manual for watch officers. His mother and sisters have the sympathy of his class, for although he was with us but a year, he will be remembered by many of our men.

1907.

BRYANT NICHOLS, *Sec.*, 143 Garland Street, Everett, Mass.
HAROLD S. WONSON, *Asst. Sec.*, 149 East Main Street, Gloucester, Mass.

I. *On the Part of the Secretaries*

As usual in the fall, there is only a small amount of news regarding '07 men to record in the REVIEW. The secretaries have just three things to state. First, they are working on a new plan of carrying on correspondence among the members of the class. Second, a letter from them containing many important announcements and plans will be sent to every member of the class about January 1, 1912. Third, DON'T FORGET that next June we celebrate our fifth anniversary, and plans are already underway for one great and glorious celebration—probably a three or four day house-party or camping-party somewhere within easy reach of Boston, taking place on Saturday, Sunday, Monday, and Tuesday, June 1, 2, 3, and 4. Fuller plans in the January letter and later. Begin now to arrange your vacation next summer so as to be with your class-mates on these days.

II. *Progress in '07 Family Life*

Since the July REVIEW the following marriages and births have taken place: Charlie Allen has a daughter, Barbara. Unfortunately we do not know the date of her birth.—A. B. Arnold was married to Miss Ruth Goodrich of Plainville, Conn., on September 20, 1911.—On September 6, 1911, C. W. Beam was married to Miss Cora Isabel Wilson at Watertown, N. Y.—Frederick Bachmann married Miss Ethel M. Corrie at Westfield, Mass., on August 22, 1911. "Bach" is now with the legal department of the Thomas Edison Company, and his address is 18 Halstead Place, East Orange, N. J.—On October 3, 1911, occurred the marriage of Warren A. Gates to Miss Marion W. Sloane of Newark, N. J.—Wheaton I. Griffin, we learned a short time ago, was married on October 26, 1910, and on August 10, 1911, he became the father of a daughter, Elida Wheaton Griffin.—We believe it has never been recorded that J. W. G. Hanford was married August 30, 1905. This is late in the day, but we never knew the date until this fall.—In Houston, Texas, on July 11, 1911, Miss Elizabeth Haskins became Mrs. A. E. Hartwell.—Miss Gladys E. Holden and H. B. Hosmer were married on April 20, 1911,

and are living at "Hollowdene," Billerica, Mass.—At Lowell, Mass., on May 16, 1911, John Mather married Miss Mabelle Russell.—W. P. Rayner married Miss Nellie E. Tyler of Philadelphia on June 21, 1911. Their address is 440 South 43d Street, Philadelphia.—On August 28, 1911, Phelps N. Swett and Miss Eleanor MacAdam of West Medford, Mass., were married.—Philip Bangs Walker, Jr., arrived at the home of Mr. and Mrs. P. B. Walker on August 15, 1911.—Miss Ethel L. Chandler married R. G. Woodbridge on July 5, 1911, at Waltham, Mass. They live at 2226 West 17th Street, Wilmington, Del.—William G. Waldo was married in June to Miss Irene A. Hayward, a Briarcliff girl. Their honeymoon was spent at the Thousand Islands. Upon their return they will live in Mercedes, Texas. Waldo is promoting a construction company in the Rio Grande valley.

III. *Further Happenings Among '07 Men*

F. O. Adams, Jr., is now at 195 Steiner Bank Building, Birmingham, Ala.—Our old friend, E. Dexter Boles, has at last been heard from. His address is 84 State Street, Boston, care of General Electric Company. He writes to Macomber: "Am not peddling motors now, but am doing the experimental shuffle for the mill power department. Mr. Paine, leader of orchestra. If any of the boys are in the market for some fine second-hand ideas, why, bless my soul, Mac, pass the salad!" How natural that sounds!—John G. Barry writes that for the present his address is care J. E. Spurr, Chamber of Commerce, El Paso, Texas.—J. C. Bradley in August could be reached most directly by writing to Box 1047, Waterbury, Conn.—J. P. Chadwick, care General Office, 4 C Company, Cananea, Sonora, Mexico, was the proper combination in July.—L. R. Davis also is in Mexico, at San Geronimo, Apt. 16, Oaxaca.—S. J. Egan is in the East now. Address 223 Seymour Street, Syracuse, N. Y.—C. S. Fleming's address is 3119 Landis Street, Sheridanville, Pittsburgh, Pa.—John Frank wrote the secretary on June 27 that he had been so busy for the past three months that he forgot to go home nights. He continues:

> You perhaps do not know that I have recently reached the elevated position of vice-president of my company (Ilg Electric Ventilating Co.), and consequently the responsibility is rapidly turning my hair gray.

—F. B. Groover can be reached at Box 308, Statesboro, Ga.—Frank S. Hutchings, Castleton, Vermont.—A letter received from W. B. Gonder the first of the summer from the Philippines where he is government sugar expert says that the prospects of future development for the sugar industry seem better than ever there.

His address is Government Sugar Laboratory, Iloilo, P. I.—Wheaton Griffin, in addition to the news mentioned above, writes:

> After leaving Tech in 1908, I promptly gave up engineering and have since been endeavoring to gather in a few coins by selling groceries. . . . Although it doesn't make much difference in the wholesale grocery business whether $f=\frac{My}{I}$ or not, I wouldn't give up the years spent in Boston for anything.

Griffin's address is 13 West Street, Utica, N. Y.—J. W. G. Hanford writes a letter from which only part can properly be quoted:

> Not more than six months have I spent strictly at mechanical work. The rest has been mixed, mostly civil. Am now drafting in the city engineer's office, a purely civil job. All the mechanical engineering in Spokane could be done by one man, and as no one can corral it all, there's not a living in it for anyone. This is virtually true of most western cities. . . . But a son of M. I. T. should have adaptability enough to meet varying conditions, and so we'll make the effort.

—Philip B. Walker writes of a change of address. He is going to move to Needham, Massachusetts, that his son Philip Bangs Walker, Jr., born August 15, 1911, may have the benefits of country life.—Hanford is at E 1913 Providence Avenue, Spokane, Wash. He would welcome letters from '07 men. Why not write him?—B. D. Johnson, 109 Luzerne Avenue, Pittston, Pa.—R. J. Karch, 710 Cumberland Street, Lebanon, Pa.—W. I. Keeler is now a member of the contracting firm of Davenport & Keeler, Box 100, New Britain, Conn.—J. C. Kinnear, Steptoe Valley Smelting Co., McGill, Nev.—J. H. Link, Rushville, Ind.—F. C. Mabee, care Baptist College, Shanghai, China.—Our president, Macomber, has been appointed chief electrical engineer for the Tenney Syndicate properties during the summer. His address is 201 Devonshire Street, Boston, Mass.—M. E. MacGregor, 35 Fountain Street, Pawtucket, R. I.—B. F. Mills, Care Bureau Public Works, Sorsogon, P. I.—W. P. Monahan, 509 Trust & Savings Building, Los Angeles, Cal.—J. G. Moore, Florida Coast Line Coast & Transportation Company, West Palm Beach, Fla.—J. S. Nicholl is with W. B. Snow, publicity engineer, 170 Summer Street, Boston.—F. K. Niles, 2665 Devisadero Street, San Francisco, Cal.—E. C. Noyes, Trussed Concrete Steel Company, Detroit, Mich.—E. H. Packard has come back to the vicinity of Boston, and has taken up his father's business in Brockton, Mass. His address is "The Chesston Apartments," Brockton, Mass.—T. W. Roby, Jr., Shenandoah Club, Swissvale, Pa.—D. E. Russ, 23 Pinnacle Road, Rochester, N. Y.—R. E. Shedd, 20 Cedar Street, Woburn, Mass.—Robert Tappan, Cutler Building, Rochester, N. Y.—S. R. T. Very, 25 West 42d Street, New York.—S. D. Wells, Forest Products Laboratory, Madison, Wis.

1908.

JOHN T. TOBIN, *Sec.*, care F. F. Harrington, Bridge Engineer, Virginian Railway Company, Norfolk, Va.
RUDOLPH B. WEILER, *Asst. Sec.*, care The Sharples Separator Company, West Chester, Pa.

I. *On the Part of the Assistant Secretary*

The July meeting took the form of an outing to Nantasket on the 8th. Those that went down on the 1.20 boat started a ball game on arrival at the beach, lined up as follows:

Single Men		*Married Men*
L. B. Ellis,	c.	R. I. Ripley.
W. D. Ford,	p.	W. E. Barton—E. Smith.
"Doc" Leslie,	1b.	E. Smith—W. E. Barton.
Carl Bangs,	2b.	G. S. Clatur.*
O. S. Lyon,	3b.	C. Youngerman.
Burt Cary,	s.s.	"Dick" Collins.*
Langdon Coffin,	l.f.	A. W. Heath.*
"Pop" Gerrish,	r.f.	R. J. Batchelder.*

Umpire, E. H. Newhall; custodian of the wardrobe, J. R. Nichols. The game was won, of course, by the married men, in the middle of the ninth, 17 to 14, thus proving, etc. After the game the fellows adjourned to the State bath house and then to the water where the contest was resumed with a cork ball. At 6 p. m. adjournment was made to the Palm Garden in Paragon Park where tables had been reserved, and the numbers were increased by the arrival of other members on the 5.20 boat. The following sat down for the feed,—Bill Barton, Carl Bangs, R. J. Batchelder, B. W. Cary, "Dick" Collins, Langdon Coffin, G. S. Clatur, L. B. Ellis, "Pop" Gerrish, Sherwood Hall, A. W. Heath, "Doc" Leslie, O. S. Lyon, A. C. Nichols, J. R. Nichols, E. H. Newhall, R. I. Ripley, Ed. Smith, Conrad Youngerman; C. W. Clark was also present—with two fair friends—see matrimonial notes. After dinner the bunch proceeded to "do" Paragon Park—each buying a combination ticket. A "special" exhibit was held at the Diving Girls, and a fine show it was, with the married men all lined up in the front row. G. M. Belcher came down on the boat with the rest, but owing to certain attractions in Duxbury had to leave immediately in order to hasten his eligibility for the married men's team—we suspect. Return was made on the 9.40 boat, the fellows singing most of the way back. Altogether it was a most enjoyable time, and your assistant secretary in writing it up from information furnished by "Pop" Gerrish, certainly

*Recruits for married men from those who "have hopes."

was sorry to miss it.—The September meeting was held on the 12th at the Boston City Club. Although more than twenty signified their intention of coming, only fifteen appeared. As twenty is the minimum number which must be guaranteed, the class went in the hole for five seeds. This is the third time that this has happened in the last three years, and it is entirely unnecessary. If, after sending in an affirmative reply, fellows would only notify the person in charge of the arrangements by 'phone, or otherwise, that they cannot attend, when something unforeseen occurs, it would make a certainty out of an uncertainty, save worry on the part of those in charge and save money for the class. This can hardly be called an unreasonable request. After some discussion it was voted that this deficiency be made up out of the class treasury, rather than by appeal to those at the dinner, which was also suggested.—H. T. Gerrish was reëlected as class representative on the Alumni Council for a term of three years. W. D. Ford was appointed a committee of one to send to the assistant secretary a letter of good wishes and appreciation of his labors in behalf of the class. Your assistant secretary wishes to acknowledge receipt of these sentiments. It is both a privilege and a pleasure to work in the interests of such an organization. But it should be remembered that whatever measure of success has attended our efforts, has been due more to the united support given by the individual members than to the efforts of any single man. Your assistant secretary wishes to take this opportunity to thank the members for the interest they have taken in class matters and for the uniformly courteous treatment he has received at their hands. Were it not for the general interest shown it would not be possible to present much more than a "new address" column for our class notes in the REVIEW. Those present at the dinner were: R. E. Beck, E. J. Beede, B. W. Cary, Langdon Coffin, A. M. Cook, L. B. Ellis, W. D. Ford, H. T. Gerrish, who presided, Sherwood Hall, Jr., A. W. Heath, H. B. Luther, S. C. Lyon, O. S. Lyon, E. J. Scott, C. W. Whitmore. Luther was very fortunately able to take in this dinner while spending his vacation from graduate study in Germany, on this side of the water. After the dinner the fellows adjourned to the bowling alleys where the single men's team, captained by Cary, twice defeated the married men's team captained by Whitmore, at candle pins.—We have the announcement through the papers of the engagement of Alfred B. Babcock to Miss Hazel C. Brant of Brooklyn, N. Y. Miss Brant is a graduate of Packer Institute.

II. *Matrimonial*

This business still continues good. C. W. Clark was married to Miss Beatrice G. Armstrong August 30 at Jamaica Plain, Mass. —H. C. Elton was married to Miss Marjorie S. Perry June 23

at Dorchester, Mass.—J. C. Gaylord was married to Miss Grace Wright August 1 at Santa Ana, Cal.—I. M. Guilford was married to Miss Emma M. Fitch September 20 at Brookline, Mass.; at home after November 1, West Cheshire, Conn.—H. F. Richardson was married to Miss Lillian Naylor on October 2 at Brooklyn, N. Y.; at home after December 12 at 158 Rogers Avenue, Brooklyn, N. Y.—H. H. Howland was married October 18 to Miss Etta E. Mason at Lowell, Mass.

III. *Letters*

We have received the following very breezy letter under date of April 12 from C. O. Brown, assistant engineer, irrigation division, Bureau of Public Works, Manila, P. I.

'08 seems to be making itself famous in the Islands between P. R. Fanning, "Wild Bill" Adams and the writer of this letter.

. . . "Work," did you say? Oh yes I work; did you think that the tropics prevent work?—nothing like that, son. To be sure we guys in the office only put in eight hours a day, but I had an "apprentice" job of two years in the field before the office called me, and let me tell you it was no eight-hour stunt there either. I seldom if ever put in less than ten hours' field work to say nothing of figuring notes after we were comfortably filled with canned chow and chicken. Then, too, the traveling during the day was not always over macadam roads. Nice gooey rice paddies, carabao wallows, bamboo thickets, etc. But I enjoyed it after all and have never regretted the two years in the "bosque." That's the only place to get real near to the real Fillipino nature. A person living in Manila ten years will not know as much about the real native as a man living two years in the Provinces. That reminds me, the recent Friar Lands Investigation in Congress instigated (outwardly) by Representative Martin receives nothing but adverse comment throughout the Islands. And that bunch of hot-air artists from Boston, who pose as anti-imperialists, are the butt of jibes and jokes all through the Orient. I see by the paper that they are attacking Mr. Dean C. Worcester, the commissioner of interior of the Islands, on the ground that he has outlived his usefulness, etc. The accurate knowledge of conditions in the Islands displayed by that bunch of "Old Maid Bostonians" is laughable. Incidently Mr. Worcester is the most competent commissioner we have and a man thoroughly conversant with the Islands, their needs and those of the people. But, of course, the Bostonians know more than a man who has spent the last twenty years in close touch with conditions. Honest, I am sometimes ashamed to admit that I come from that part of the country. I had the good fortune to be in Manila during the period of volcanic activity of the latter part of January. We sure had earthquakes for "breakfast, lunch and dinner." The exact number has slipped my mind now, but the old earth wobbled and wriggled some nine hundred times inside of a week. Of course, the town didn't fall at every shake, but many of them were apparent, and decidedly so. One morning, in particular, about 10 a. m., we had a beautiful wobble and the drafting room emptied itself in a twinkling. The houses are of the typical Spanish type, with which you are doubtless familiar, and it would take a twelve-inch gun to make any impression on them—a little thing like an earthquake wouldn't do it. About 1 a. m., January 30, there was an explosion and the bed seemed to jump up at least a foot. We all jumped out of bed and looked toward the volcano in the southwest and even at that distance (30 miles) we could see a most wonderful electrical display and enormous clouds of smoke rolling heavenward. The scene on the street in Ermita, Manila, was laughable,—men in pajamas, women in kimonos, and dogs raising a most musical howl.

I made the first train out in the morning for the scene of the eruption. When within twenty miles of the volcano we saw a thin layer of fine gray volcanic dust

over everything and it became heavier as we approached the goal. The volcano Taal was a wonderful sight, great clouds of pure white smoke mixed with dense black made a scene never to be forgotten. We got to the lake's edge as soon as possible and found everything covered with the gray dust or rather mud. There was a bunch of constabulary, who had been there the night before, and had been scared half to death. The volcano, as you know, is in the middle of a deep lake about eight miles in diameter. The cone is about 1,000 feet high and the crater a mile in diameter. We went to the island at 2 p. m. that afternoon and found that every sign of vegetable life had been destroyed by the force of the explosion. Trees eight inches in diameter were torn apart like so much paper and the entire island was covered with the volcanic ash and mud. We went up and stood on the rim of the crater for ten minutes and experienced a charming earthquake while there. Frightened? O--o--h, N-o-o-o! The scene looking into the crater was indescribable. There I realized again, as at Niagara, the enormous forces of nature. The roar was deafening and steam, white smoke and black smoke, in which were rocks, rushed forth continuously. The rocks seemed to defy the laws of gravitation for they would go up, up, up, without any visible force to aid them. Shortly after we left the island, in fact, we were only a mile away, the entire crater blew out and the island and part of the lake were treated to a shower of rock and ashes. Had we stayed half an hour longer at the top I reckon I'd be in the happy hunting grounds now. It was a trip I wouldn't have missed for a lot. As it was, I got called for going without permission from the Big Boss.

Since then things have been gay and strenuous. Between work and play life has been as full as any one could wish. The big carnival, somewhat on the same plan as the Mardi-Gras at New Orleans, kept me busy for eight nights and I have yet to experience more genuine fun anywhere. By the way, it was in the Carnival Tennis Tournament, in which the China Coast as well as the Islands was entered that our P. R. Fanning, '08, was runner-up in singles and won the doubles paired with Gee. And P. R. is playing a cracking good game, too. Old "Hap" Adams hasn't changed a bit. He is now in the Mountain Capitol with the rest of the government office force. He made one of his typical speeches at a banquet night before last and in spite of the fact that the governor-general and several other big bugs had preceded him, he was the king pin of the evening and "brought down the house." That invitation to dinner on March 14 reached me April 4 or 5, but I am just as much obliged. If I recall correctly I was out to dinner on March 14 anyhow, and had a bully good time.

Well, so long. I'll be back to take a look for myself next year. Wonder will I find M. I. T. on Boylston Street or in Chicago. Then, too, I'll have to walk from the South Station to North Station for I'd get lost in the new subway.

—Here is another letter that has traveled some. J. W. Maxwell, mine superintendent, Central Chili Copper Company, Ltd., Panulcillo, Coquimbo, Chili, writes under date of June 21, 1911:

I am well located here and will probably remain some time, and but for the occasional calling of the "flesh pots" would be quite contented as there is work a-plenty and the finest climate in the world. In fact too much climate and not enough of the other good things of the earth. Tech men are pretty scarce in this neck of the woods, nor is there much opening for them here at present.

—A. F. Edge writes from Argo, Ill., under date of July 16, 1911:

I have moved here from New York to take charge of a few special starch processes in the Argo factory of the Corn Products Refining Company. The plant is situated about ten miles out of Chicago on the prairie; it has been running only a few months and is being largely extended. Its present capacity is about 20,000 bushels of corn and when the present work of extension is completed the capacity will be about 40,000 bushels, making it the largest plant of its kind in the world.

IV. *New Addresses*

Prof. G. A. Abbott, University, N. D.—Horace Allen, 2040 Robinwood Street, Toledo, Ohio.—Robert A. Angus, care of W. C. K. & Co., 10 Bridge Street, New York, N. Y.—W. E. Barton, 20 Curtis Avenue, West Somerville, Mass.—Frank K. Belcher, 533 Lefferts Avenue, Richmond Hill, Long Island, N. Y. —C. H. Boylston, 106 Central Avenue, Milton, Mass.—Benjamin Bullard, Garden City, Kan.—J. M. Burch, Jr., care of Farley & Loetscher Mfg. Co., Dubuque, Iowa.—H. W. Calder, 118 Neponset Street, Norwood, Mass.—H. Ross Callaway, 311 West 3d Street, Oil City, Pa.—Charles J. Carter, Forest Avenue, Orono, Me.— Harry S. Chandler, care of Solvay Process Company, Detroit, Mich.—A. O. Christensen, Box 232, Groton, Mass.—C. W. Clark, 70 Montello Street, Roslindale, Mass.—R. C. Collins, 97 Dexter Street, Malden, Mass.—Hugh Correll, 1401 North Market Street, Canton, Ohio.—R. G. Crane, 124 South Oxford Street, Brooklyn, N. Y.—Henry H. Damon, care of District Engineer, Bureau of Public Works, Iloilo, Philippines.—Leon A. Dickinson, Bureau of Tours, American Auto Club, 54th and 55th Streets, New York, N. Y.—Alexander Ellis, Jr., 28 Ellsworth Avenue, Cambridge, Mass.—Paul R. Fanning, Bureau of Science, Manila, P. I.— A. L. S. Ferrandi, 21 Rand Street, Roxbury, Mass.—J. C. Gaylord, 1120 Meridian Avenue, South Pasadena, Cal.—Geo. T. Glover, care of Allis-Chalmers Company, Schofield Building, Cleveland, Ohio.—W. R. Heilman, 1105 South 2d Street, Evansville, Ind.—Paul H. Heimer, care of Heimer & Becker, Porcupine, Ont., Can.—Oliver S. Jennings, Gray Building, Wilkinsburg, Pa.— W. W. Karnan, San Juan, Porto Rico.—Richard Y. Kennard, 349 Oakwood Avenue, East Aurora, N. Y.—George C. Lees, Easton, Pa.—Bernard S. Leslie, 44 Randolph Avenue, Milton, Mass.—Leo Loeb, 216 Venango Street, Westmont, Johnstown, Pa.—Charles L. Lufkin, 12 Sadler Street, Gloucester, Mass.— R. A. Martinez, Malecon 31 Bajos, Havana, Cuba.—H. E. McPhee, Box 272, South Framingham, Mass.—Archer C. Nichols, 130 Pearson Road, Somerville, Mass.—George H. Pierce, 1014 Independence Boulevard, Chicago, Ill.—Charlton D. Putnam, 32 Custom House Street, Providence, R. I.—J. R. Reyburn, care of Stone & Webster, Boston, Mass.—Willard F. Rockwell, 131 Wilmington Avenue, Dorchester, Mass.—H. M. Richards, 55 Vernon Street, Brookline, Mass.—Miles Sampson, 535 Hall Street, Manchester, N. H.—H. S. Sargent, 142 Church Street, Newton, Mass.—F. B. Schmidt, 1400 East 53d Street, Chicago, Ill.—Wm. A. Stocking, 2067 East 102d Street, Cleveland, Ohio. —L. W. Thurlow, 403 East 3d Street, Loveland, Col.—Robert B. Todd, 214 Grant Avenue, Medford, Mass.—Aram Torrossian, 228 Washington Avenue, Chelsea, Mass.—F. E. Towle, New York City Aqueduct, High Falls, N. Y.—George J. Venn, 37 Ledyard

Street, Detroit, Mich.—Edgar I. Williams, 131 Passaic Avenue, Rutherford, N. J.

V. *Addresses are wanted for the following:*

Allen, Edward E.—Bodenstein, Morgan L.—Brazil, Augusto de Moura.—Chen, T. T.—Chuchian, Sahak.—Cooke, G. R.—Davidson, Jas. H.—Folsom, Miss Susie T.—Franks, F. L.—Goode, F. C.—Goodnow, Frank E.—Haas, Ludwig F. C.—Harlow, John B.—Haskell, Robt. F.—Hume, Harry G.—Hatton, J. M.—Hunter, Roy.—Jay, Louisa B.—Johnson, John E.—Leong, Y. F.—Lo, T. Y.—Mohan, Arthur F.—Nicholas, U. J.—Nordstrum, Ludwig S.—Patton, Walter L.—Pratt, W. L.—Rawlinson, W. W.—Ruggles, H. J.—Seymour, Allen.

1909.

CARL W. GRAM, *Sec.*, care Walter Baker Co., Ltd., Milton, Mass.

Few letters have come in during the summer months, but now that we are settling down to business again, let us hope that many will make use of some of the long winter evenings and drop the secretary a line or two. And don't forget the insignificant sum of $1.00 for class dues.—Bill Kelly writes from Leipzig on September 21:

Just received the July REVIEW and spent the whole morning reading it. I have been having a good time all summer traveling in Germany, Switzerland, France, England and Ireland, with my father and sister. In going through the Westminster Abbey in London, I ran into Jack Elbert. We were both a bit surprised, and although we only had a few minutes to talk we managed to say a few things. After seeing my folks on board the *Olympic* at Queenstown, I returned to London and then went to Folkstone for a week where I played 36 holes of golf every day. The university doesn't open up here for another month so I have quite some time to loaf around and play tennis and golf. The field hockey team is just starting training and they want me to join in with them, but I don't care enough about the game. I'll be there, however, when the ice hockey season starts next month. Last winter I played two games with them in Berlin where we won 5–1 and in Hanover where we ran away with the game 13–2. In the former game I wasn't used to the wide rink and new rules, and hence failed to score, but in Hanover I landed the puck six times. That was fun! The goalkeeper there had never seen a real shot before and most of mine he didn't see either until they were in the cage behind him. This year we play the Canadian rules and I expect to be able to show the team here a few stunts. They play a great deal of ice polo here and in that game our team has lost one game in seven years, and that against the Oxford Canucks. Our fellows have beaten every team on the continent. Give my best regards to all the fellows you may see.

Bill's address is Haydustr F II R., Leipzig, Germany.—Mollie Scharff, 213 East Hanover Street, Trenton, N. J. reports:

I am tremendously pleased with my work which is inspecting and supervising the operation of our 95 or more sewage disposal plants. Have joined the N. Y. club as a non-resident, and saw several classmates while there last week.

—We were very glad to receive a letter from Shen dated June 7th:

I left Boston last July (1910) for China but was sorry that I could not have then notified you of the fact because I had no idea where I should be after I reached home. Now I am glad to inform you that four months ago, I was appointed by the Board of Foreign Affairs as a diplomatic secretary to the commissioner for foreign affairs at Canton. I am now living here and would be very much pleased to make this known to you and through you to all of my classmates and friends on the other side of the Pacific.

—Address Heenan T. Shen, care of Commissioner of Foreign Affairs, Yamen, Canton, China.—S. F. Barnett wrote from Seattle, Wash., and enclosed a check for *this* and *next year's dues*. Delinquents please take notice.—C. S. Robinson has moved from Chicago and is now with Roessler & Hasslacher Chemical Company, Work No. 2, Perth Amboy, N. J.—The following clipping is from a Lowell Paper:

Mr. E. E. Wells who graduated in 1909 from the Massachusetts Institute of Technology and spent a year in the employ of the Talbot Chemical Company of North Billerica, leaving that company last summer to enter the employ of the Davidson Chemical Company of Baltimore, has been made a superintendent of the Hawkin's Point plant of this company. The Davidson Chemical Company gives its full attention to the production of sulphuric acid and is one of the largest concerns in the world engaged exclusively in this manufacture. It has three plants, one at Hawkin's Point, one at Canton and one at Curtis Bay, and has just begun the construction of a fourth. These plants alone represent an investment of about $2,000,000. The Hawkin's Point plant, of which Mr. Wells is superintendent, turns out over a hundred tons of sulphuric acid daily.

—We received a card from T. A. Tillard who is roaming around in Africa. Address is care of Sudan Irrigation Service, Khartoum, Sudan.—Ray Van Etvelde writes from Vernon, British Columbia, Canada: "I have been rounding the world, and am now ranching in British Columbia."

Matrimonial

The marriage announcement of Herbert J. Stiebel to Miss Ethel E. Roberts at Los Angeles, Cal., on June 10, has been received. "Herb" is now at home at Villa Escobeda via Parral, Chihuahua, Mexico.—Kevork Madenigian was married to Miss Arshaloyse Gabriel on July 7 in Union Hill, N. J.—On July 11, Arthur E. Hartwell was married to Miss Elizabeth Haskins, in Houston, Texas.—Clarence C. Maynard was married July 19 to Miss Bertha Phillips Marvel. Maynard is with the Boston Elevated Railway in construction work on the subway at Harvard Square.—The secretary received a card from Jim Critchett announcing the birth of Doris Walton Critchett, an 8½ lb. girl, on August 2.—Burr Robinson writes:

John Grant Robinson arrived August 16th. I haven't decided what course Jack will take. He'll probably have something to say about it himself. I joined the editorial staff of the *Engineering and Mining Journal*, June 19th and am enjoying the work. Address is 505 Pearl Street, New York.

—The following clipping is from a Boston paper of August 15:

Miss Victoria Sordoni, one of the most popular students at the New England Conservatory of Music when she was a pupil there, was married last evening to Royce W. Gilbert, an instructor at the Massachusetts Institute of Technology. The bride is the daughter of Nicholas Sordoni of Wilkesbarre, Penn., and a June graduate at the Conservatory.

As she had appeared on several occasions as a soloist at musical festivals, Miss Sordoni was well known in New England. Her father, Nicholas Sordoni, was an officer under Garibaldi in the Italian revolution, and is connected with high state officials of the Italian government.

Mr. Gilbert, the bridegroom, was for several years an associate with the late Mrs. Ellen H. Richards in her researches in sanitary hygiene and economics.

—B. A. Bowman was married to Miss Norma Wells Saunders on September 9. They are living at Burton Halls, 10 Dana Street, Cambridge, Mass. Bowman is in the designing department of the Boston Elevated Railway and is at work on the Cambridge subway.—Frank Lange was married on September 14 to Miss Pauline Matilda Weber at Springfield. Address, "The Royal," 3 Salem Street, Springfield, Mass.—On September 30, George Leonard Lawrence was married to Miss Florence May Merrill in Melrose.

Harold Metcalf Glazier was married to Miss Laura Dearborn Goodwin on September 5, at Hudson, Massachusetts.—On October 18, Matthew Fletcher was married to Miss Marjorie Seeds in Christ Episcopal Church, Springfield, Ohio.

New Addresses

H. H. Bennett, Casper, Wyoming.—A. C. Besselievre, New York Shipbuilding Company, Camden, N. J.—John H. Bossong, 1226 Market Street, Wilmington, Del.—J. N. Boyce, Anaconda, Mont.—Wm. H. Camp, Weissinger Gaulbert Apartment, Louisville, Ky.—W. W. Clifford, United States Forest Service, Henry Building, Seattle, Wash.—Herbert C. Cloudman, 792 Main Street, Westbrook, Me.—Warren L. Dubois, 3 Broad Street, Freehold, N. J.—F. R. Faulkner, Vancouver, B. C.—Louis S. Gordon, 425 Geneva Avenue, Dorchester, Mass.—W. D. Green, 72 Macon Street, Brooklyn, N. Y.—C. Nelson Harrub, 19 Berwyn Avenue, Trenton, N. J.—George E. Hodsdon, 16 Chapel Street, Gloucester, Mass.—R. L. Jones, 416 West 118th Street, New York.—Christian Kurtzmann, 4 Milton Manor, Buffalo, N. Y.—George A. Morrison, Compania de Minas de Mexico, Tonichi, Sonora, Mexico. —M. Porosky, The Holtzer Cabot Electric Co., 621 Albany Street, Boston, Mass.—Charles W. Radford, 453 Algoma Street, Oshkosh,

Wis.—W. R. Reilly, Box 21, Porcupine, Ont., Canada.—K. Roehrs, Roswell, New Mexico.—Maurice R. Scharff (with the State Board of Health), 213 East Hanover Street, Trenton, N. J.—A. L. Shaw, 6 Beacon Street, Room 809, Boston, Mass.—Arthur H. Turner, 194 Ely Street, Atlanta, Ga.—John A. Willard, Wrentham, Mass.

The secretary would like the addresses of the following: Chester A. Brown, Thomas F. Carroll, Chu Shen Chow, C. H. Crawford, Daniel F. Harriman, Herbert S. Hollingsworth, Ralph E. Irwin, Frank S. James, Lewis Racoosin.

Angus E. Burt.

It is with deep regret that we announce the death of Angus Burt and his wife who perished in the shaft of the West Dome mine in the terrible fire which swept over the Porcupine gold mining region July 11. After leaving Tech, Burt worked in the Nipissing and La-Rose mines in the Cobalt district, and in 1910 was severely injured by the falling of a ladder on which he was descending a shaft. On July 14, 1910, he was married to Miss Rose Wallingford of Cobalt. Becoming convinced that the Porcupine region would afford opportunities for rapid advancement, he went there and settled at the Hallinger mine and afterwards became assayer for the West Dome.

Those who have read the account of the terrible disaster at Porcupine, can hardly realize the desperate situation of the inhabitants of that district. About seventy miners from the West Dome attempted to prevent the fire from sweeping over the cleared area adjacent to the mine, but soon found that the burning branches from the forest were being scattered far into their rear and their only hope was to save the most important of the mine buildings. This might have been effected had it not been for the fact that the pumps gave out at the most critical time and the buildings were immediately in flames.

Burt, with his wife, attempted to reach a moist place in the timbered shaft a short space down the hillside, but were hit by falling matter and carried down the shaft to their death.

1910.

John M. Fitzwater, *Sec.*, 119 Henry Street, Brooklyn, N. Y.
G. Bergen Reynolds, *Asst. Sec.*, 142 Highland Avenue, Somerville, Mass.

Letters are beginning to come from the men from different parts of the country, and the assistant secretary sincerely hopes that all those who have not written will do so in the near future. From the treasurer's report it will be seen that less than one hundred men have paid their class dues; a large part of the money

was received from the portfolio committee. If you have not yet paid the class dues, please do so at once. While the class has money in the treasury it must not be forgotten that we have a five years' reunion coming that will take several times our amount on hand.—H. P. Trevithick is chemist for the Refuge Cotton Oil Company, Vicksburg, Miss. Trevithick was married December 26, 1907, although he did not have his wife with him while attending the Institute. There was a son born November 7, 1909. —P. G. Lamson, 17 Gramercy Park, New York City. Lamson is temporarily appointed to New York City with the American Bridge Company. Permanent address: 601 North Duff Street, Mitchell, S. D.—K. P. Armstrong is with Durkee, White & Towne, civil engineers, Springfield, Mass.—A. P. Truette, who was an assistant in the engineering laboratory last year, has accepted a position with the Goodyear Rubber Company, Akron, Ohio. He is also found at 45 Marshall Avenue, Akron, Ohio. —L. Osborn French, 1712 17th Street, N. W., Washington, D. C. French is assistant examiner in the U. S. Patent Office at Washington.—Nathan Ransohoff, 2929 Vernon Place, Cincinnati, Ohio. Ransohoff is in the planning department of the Cincinnati Milling Machine Company.—G. Bergen Reynolds, 461 Wilson Street, Manchester, N. H., is with W. H. McElwain Company in the labor department.—Charles W. Wallower, American Tel. & Tel. Company, Buffalo, N. Y. Wallower has been appointed district plant chief of the American Telephone & Telegraph Company at Buffalo, N. Y.—Ernest L. Patch, U. S. S. *Delaware*, care of postmaster, New York City. Patch was graduated eighth in his class at the U. S. Naval Academy last June. He is now serving two years' sea service in preparation for his examination as ensign.—Loren N. Downs, Jr., who was an assistant last year in the electrical engineering laboratory is now in the commercial engineering department of the New England Tel. & Tel. Company. Address, 18 Burr Street, Jamaica Plain, Mass.—Charles E. Green is efficiency engineer for E. B. Badger & Sons, 63 Pitt Street, Boston. Permanent address, 42 Parkman Street, Dorchester, Mass.—E. S. Russell is with Fred Taylor the efficiency engineer. At present he is located at the Plimpton Press, Norwood, Mass.— T. DeV. Martin is in the Underwriters' laboratory in Boston. —Luke Sawyer is with Babcock & Wilcock Co., Bayonne, N. J. —H. G. Reynolds has been transferred to St. Louis. Reynolds is with the Pneumatic Service Company.—Carl F. Dohle is in Chicago erecting machinery for the Pneumatic Scale Company. —"Dutch" Rietschlin writes as follows:

Technically trained men are scarce here and as there is much work in the engineering line, it seems to be the right place for young engineers. I am going to stay in Texas for some time and hope to become identified with the good roads' work in Bee County.

—The regular monthly dinner of the class of 1910 for the men in and around New York for the month of July was held at the Technology Club July 10, 1911. Those present were Burnham, Allen, Hodges, Brownell, Bicknell, Shaffer.

The marriage of Henry G. Hawes, Jr., to Miss Frances Habirshaw, occurred at Longwood on October 7th. Miss Habirshaw is a graduate of Miss Dow's school at Briarcliff. Hawes is a Harvard man '07, and is now connected with the Employers' Liability Assurance Company, of Philadelphia.

We hear through the papers that the class may offer congratulations to James T. Whitney. The announcement of his engagement to Miss Nettie L. Savage, was made September 26, at the summer home of Mr. and Mrs. H. W. Savage of Wakefield.

REPORT OF J. M. FITZWATER, SECRETARY AND TREASURER, CLASS OF 1910

Receipts

171 class dues @ $0.75	$42.75
Received from class day treasurer	51.38
Class dues to October 4, 1911	69.30
Received from Portfolio Committee	142.90
Total	$306.33

Expenditures

Resident secretary	$26.00
Postage	1.57
Alumni Association	95.78
Exchange on checks	1.50
	$124.85
Balance on hand	181.48
	$306.33

REPORT OF ASSISTANT SECRETARY

Receipts

Received from treasurer	$26.00

Expenditures

Card catalogue	$3.40
Printing and return postage	15.75
Total	$19.15
On hand	6.85
	$26.00

Changes of Addresses

R. B. Alling, Buffalo, Wyo.—W. C. Arkell, Hotel Manley, Fairmont, W. Va.—J. B. Babcock, Canadian Pacific Railroad Construction Department, Perth, Ont.—E. C. Ball, 298 South Street, Jamaica Plain, Mass.—Van Z. Beall, care of Byer's Opera House, Fort Worth, Texas.—Van T. H. Bien, 11 Farnum Street, Quincy, Mass.—Leroy E. Briggs, 235 Vine Street, Bridgeport, Conn.—P. Burnham, 249 Bacon Street, Waltham, Mass.—C. D. Carey, Bethlehem Steel Company, South Bethlehem, Pa.—H. S. Cleverdon, care of Shepley, Rutan & Coolidge, 122 Ames Building, Boston, Mass.—M. W. Colebrook, Summerville Boulevard, Irondequoit, N. Y.—P. J. Cyr, Litchfield, Minn.—F. A. Dewey, 49 St. Nicholas Terrace, New York City.—H. W. Flickinger, 419 Evaline Street, Pittsburgh, Pa.—H. S. Gott, 122 West 84th Street, New York City.—E. D. Greene, 1370 Burdette Avenue, Cincinnati, Ohio.—J. K. M. Harrison, 823 West End Avenue, New York City.—P. S. Hopkins, care of Dominion Leasing Company, Tangier, N. S.—R. I. Hulsizer, 310 C Street, N. W., Washington, D. C.—E. R. Jackson, 334 Montgomery Street, Syracuse, N. Y.—S. B. Lone, 113 Wellesley Ave., Wellesley, Mass.—H. Lockett, 14 West Randolph Street, Chicago, Ill.—John Lodge, 23 Stevens Street, Astoria, L. I., New York.—R. D. Macafee, 746 East Fourth Street, South Boston, Mass.—H. O. Penland, Union City, Md.—R. A. D. Preston, Goodyear T. & R. Co., Akron, Ohio.—O. R. Rietschlin, Queen Hotel, Beeville, Texas.—S. S. Rodman, Oliver Building, Pittsburgh, Pa.—L. G. Rowe, 44 Concord Square, Boston, Mass.—F. P. Sargeant, 315 Packer Avenue, South Bethlehem, Pa.—M. C. Sherman, Fairview Avenue, Bayside, N. Y.—George T. Southgate, 1502 Commerce Avenue, Houston, Texas.—F. H. Stover, Crescent Hill Filter, Jonesville, Ky.—E. Stuart, Brookhaven, Miss.—M. K. Sweet, Bridgewater, Mass.—R. T. Torralbas, 26 Correa Street, Jesus Del Monte, Havana, Cuba.—T. G. Tripp, 418 Central Park, West, New York City.—T. C. Tuttle, 21 Flint Street, Salem, Mass.—Y. T. Tsai, Columbia University, New York City.—Donald V. Williamson, 529 West 61st Place, Chicago, Ill.

1911

ORVILLE B. DENISON, *Sec.*, 49 Institute Road, Worcester, Mass.

Well! "It" has arrived! What? You don't know what "It" is? Why, mercy me, "It" is the class baby. Yep, it's here, and listen! *It's a girl!* And her name is Phyllis Hilda Glazier. Her parents are none other than Mr. and Mrs. Leslie Gordon Glazier of Brookline. Phyllis (of course we can all call the class baby by her first name for life) was born September 3, 1911. Congratulations, Gordon, my boy! Having imparted

the most "live" bit of news first, I shall now proceed to give you as much news as possible regarding the occupations of our classmates. Doubtless you have all received a letter by this time requesting some information for the completion of a class card catalogue. Copies of this letter were sent out late in September to some 634 men, or in other words, to *all* men who have ever been connected with the class of 1911. These letters were all sent to the home addresses of the men as given in Mr. Humphrey's complete file of the class. If you have not received one of these letters it is doubtless because you could not be reached through the address given in the registrar's list. Many prompt replies have been received from the different fellows, and a complete list can soon be an assured fact. In the next issue of the REVIEW the secretary hopes to be able to print as comprehensive a list as possible of the names and business addresses of the 1911 men. This list will then be added to from time to time as the secretary receives new names or new addresses.—"All the comforts of home" seems an apt description of the suite recently fitted up for occupancy by a bunch of 1911 men who are in Akron, Ohio. The "bunch" includes Alexander, Darrow, Dunlap, Johnson and Kilborn. B. Darrow in a recent letter says:

> Five of us Tech fellows and a Bowdoin fellow whom I have been rooming with have got a corking suite of rooms at 95 Charlotte Street. We have the entire third floor of a private house, with a room at our disposal on the second floor. The room we are to use as a living-room was originally intended for a billiard-room and has one of the dandiest views from its windows, overlooking the Cuyahoga Valley, I ever saw. The man who owns the house is a Cornell '99, man and is certainly a dandy.

—This bunch of "live" 1911 men had the Technology Club of Northern Ohio as its guests at a dinner at the Akron Country Club on October 14, and a "large" time resulted.—"Don" Stevens and "Mike" Greenleaf are located in Cleveland with the Peerless Motor Car Company. "Don" had the misfortune to break his arm while cranking his Buick shortly after graduation, but he reports that it has mended in fine shape and is as good as ever now. He says, too, that he has a "fine job with roll-top desk and all the comforts of home." Even on the return postal recently sent out, "Mike" Greenleaf made an heroic attempt to drum up trade by offering to the class this motto: "Before buying a motor car, consult with us!"—"Lil' Herbie" Fryer is foreman of the drafting room, economizer division, for the B. F. Sturtevant Company in Readville. Yes, he and Governor Foss are now interested in the same concern! Bert says, "The government never was in it—I'm just coining money!"—"Dave" Allen, Course II, has invaded the village of Frankford, Pa., and secured the assistant superintendency of a foundry and machine shop. He claims that there are sometimes as many as seventeen or nineteen men working at one time in

the shop. Honest!—"Jim" Duffy and the secretary are with the American Steel & Wire Company in Worcester, learning the business at the Electric Cable works. "Jim" is looking the same as ever and is nightly "startling" Worcester with his inimitable haberdashery and clothing creations. He says he's "still single and likely to stay so while in Worcester."—Harrington, Course I, is a transitman with the Erie Railroad. The poor old "Erie" comes in for still another rude jolt when Harrington reports:

Abundance of heat, abundance of mosquitoes and dearth of summer girls. Always and ever thus on a R. R. location, I am told.

—"Pop" Hufsmith, the "Texas ranchman," has retired, according to latest dispatches. He is at his home in Palestine, Tex., and writes:

I expect to live here "till Death," but I will be back for the reunions.

That's the proper spirit, isn't it?—Paul Kellogg, Course IX, merely reports "still unmarried." He is with the Larkin Company in Buffalo.—Roger Loud, Course VI, is assisting in the installation of a large high-pressure water-gas system for the Old Colony Gas Company.—R. E. Morse (not REMorse) simply reports "Nothing doing yet!" Draw your own conclusions!—Gordon Wilkes, Course II, is back at the 'Stute as assistant to Professor Norton. He says his moustache (?) has "departed this life."—Tuck, Course VI, has joined the ranks of scientific journalists and is an assistant editor of the *Electric Railway Journal* in New York City.—"Bobby" Wood briefly describes his occupation as UNMARRIED (all capitals!)—"Joe" Aaron, Course VI, is taking the apprentice course with the Westinghouse Company in and about Pittsburgh. He writes:

I am the only man of the class that entered Tech four years ago who is with the Westinghouse people. There is now a course mapped out for each apprentice which takes him through various departments of the shop and requires 6 hours a week home studying and 4 ¾ hours a week (taken out of the company's time) for class work, studying catalogues, etc.

—Hall, Pepper, "Doc" Wells, "Johnny" Wilds and Oswald Stewart are all with the Factory Mutual Insurance Company in the Hub.—"Ken" Faunce claims as his occupation "still plugging for a degree" and gives as his business address "Lowell laboratory—once in a while 6 Lowell." He philosophizes:

Of course I should like to get married, but how can I when I am still a student?

—Charles F. Hobson, would-be chemist, and better known as "Hobbie" appears to be still playing the rôle of Philosophy in the great morality play "Every-Tech-Man." List to his latest:

"It's a hard world Dennie, when your hair is short." Hobbie's self-confessed occupation is *dilletante et litterateur.* Officer, call out the Tech battalion!—"Phil" Kerr didn't go on the stage after all. No; he's a special apprentice of motive power with the Pennsylvania Railroad and claims that news of him may be somewhat lacking in interest for a time, as his contract calls for four years' apprenticeship.—George Forristall, whom we remember as erstwhile business manager of *The Tech,* is now manager of the classified advertising department of the *Boston Traveler.* In one of his usual concise "statements" he says:

Not married yet, but almost wish I was. Not even engaged yet. Just looking around!

—"Joe" Harrington, Carl Barnes and Bill Pead, all Course VI, are connected with the signal department of the New York Central & Hudson River Railroad, being located near Poughkeepsie.—Symmes, Course V, was in Washington, D. C., all summer with the Bureau of Standards and reports that it was "hot enough to shame Pluto." He is now with the duPont de Nemours Powder Company in Wilmington, Del.—"Syd" Alling contemplated returning to the 'Stute this year as an assistant, but instead has accepted a position in the engineering department of the Rochester (N. Y.) Railway and Light Company and ventures the assertion that "work is like vacation after going to Tech."—Batty, Course II, is an instructor in the Lowell Textile School and has taken up his residence in the spindle city.—"Bob" Haslam, Course X, is back at the 'Stute as an assistant, as is Zimmerman.—"Jack" McAllen and "Aurora Borealis" Grossman are back in similar capacities in the mining department.—"Max" Kushlan, Course VI, is with Stone & Webster. His tale is not what one would ever call a "hard-luck" one. Hearken!

Was on the job June 8, right after graduation. Got married June 29 and have not regretted this act as yet. Am living on low salary, but high hopes.

—Listen to what "Art" Leary, Course I, says: "Got my job solely on Tech's good reputation." He is foreman on work on the city reservoir in Minneapolis, Minn. Yimminy Yee!—Percy Rideout, Course I, has made a startling discovery! He is with the engineering corps of the Cairo division of the Big Four Railroad, located at Mt. Carmel, Ill. (wherever that is). He says: "They never heard of Tech down here!"—Charles Hudson Sayre Merrill, he of the longitudinally lengthy cognomen, ought to be a daffydil editor of a monthly publication in an insane asylum. Just listen, gentlemen, and ponder carefully—the whole world awaits your verdict.

What's the day we celebrate? November 11. Why? Because it's 11-11-11!!!

—GUILTY!—"Bill" Burleigh, Course II, has "signed up" with the Towle Manufacturing Company in Newburyport as a mechanical assistant and writes:

> Have seen some of the "youngsters" going back—would like to be with them. I've hardly had enough.

—Walter F. Connolly is now instructor of mechanical drawing in the Lowell Industrial School at Lowell, Mass. He offers the following informal appeal to 1911 men: "Would be glad if any of the members of the class could give or obtain material for Lowell Industrial School."—On Monday evening, September 25, a pleasant evening was enjoyed by a number of our men who have located in and around New York City. On that evening the Technology Club of New York held a dinner and reception for 1911 men. A good representation of 1911 men was on hand and an excellent time was reported by all who attended.—The engagement of H. L. Robinson to Miss Frances Spaulding, Wellesley, 1911, was announced on September 22. "Robie" is located in Buffalo with the Aberthaw Construction Company.—"Bill" Warner and Otto Shenstone are working for the City of Vancouver in British Columbia, on the pay-roll of the municipal civil engineering department.—"Dick" Ranger is running the Tech Press Association this year, with office at 39 Trinity Place. Among his associates are Seligman and Pearl.—"Bill" Humphreville is busy contracting in Houston, Tex.—The secretary would be glad if any one can furnish information concerning the following men, particularly as to their present addresses: A. B. de Arujo, J. B. Cheney, C. C. Clark, G. N. Harcourt, I. Housman, I. S. James, W. B. Jones, E. H. Kruckmeyer, Abram Morris, A. Pauvolid, and Benjamin Robinson.—Don't forget that whenever you stumble across anything of interest to the other members of the class, obey that impulse! Sit right down and drop a line, even a postal, but much better a letter, to the secretary at 49 Institute Road, Worcester, Mass.